DESIGNING ORGANISATIONAL REVOLUTION

exploring the role of design in the quest for progressive organisations

Max Davidse

TUDelft

DU DESIGN UNITED

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exploring the role of design in the quest for progressive organisations

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An explorer can never know what he is exploring,
until it has been explored.

George Bateson

PREFACE

Somewhere halfway through my first year at our faculty, I was told by one of my teachers that I did not belong. She argued that I might have made the wrong choice in applying for an education at our faculty, because I do not really like uncertainty. My teacher was wrong. Because actually, I hate uncertainty. For someone like me, a project like this thus might not have been the best of choices. That is why, every time I had one of many little moments of panic, or when I felt truly lost, I would look up the different quotes I collected over the course of all those months. Of all those quotes, I like the one to the left the best. I now know that I do belong, and I did make the right choice.

Christine, Sander, Barend, Katinka you have made me an explorer. Thank you.

Now, sitting here and writing the final words of my master thesis in typically Dutch weather, I can only look back on a host of right choices. Yes, there were some wrong choices, some deviations from the strait and narrow, but if there is one message that anyone should take away from this thesis, please let it be that mistakes must be made.

I want to thank everyone who helped me make the most out of this research. I want to thank my committee, for keeping confidence and steering me in times I felt lost. Thank you Bram, for always being able to pick up the phone if I needed some advice and for proof reading my entire thesis. Thank you to all the participants of the final sprint to the finish – my validation heroes: all students that filled in my questionnaire, Détje, Ida, Anne, Judith, Merel, Katinka.

Of course, I also want to thank everyone that made my (student) life the best it could possibly be have been. Thank you to my parents and my sister, for always being there in any way they could. Thanks to all my friends, but especially the Major Lazer (Anne, Annemieke, Anouk, Daan, Dominy, Ewoud, Gabrielle, Jelmer, Jord, Juline, Koen, Martin, Odette, Sophie, Stijn, Varik). Thank you to my (former) roommates Bram, Mathijs, Poef, Joost, Oreo, for being there when I needed it most. Thank you Jasper and Jeroen for constantly listening to my whining, random remarks and music. And thank you Sanne for being my graduation partner in crime.

Christine, Reina, Maïte, Ilse, Hassan, Sander, thank you for introducing me to the wonderful world of KLM. And thank you Ingrid, for always being able to help me out when I got lost there.

You al truly made me push myself, to achieve the best I could. Most of all, you guys gave me back the confidence I will be able to use for the rest of my life.

Sincerely,

Max Davielse

EXECUTIVE SUMMARY

Introduction

Organisations find it more and more difficult to deal with our changing times, as our world has drastically changed over the last decades. This has led us to believe that organisational theory and practice from the last decades just does not hold up anymore. They have created organisations that made sense then, but do not necessarily now. Organisations themselves need to change in order to keep up with this sped up world.

Organisations today have a one-in-three chance of failing within the next 5 years, compared to one-in-twenty 50 years ago.

To achieve better success, many organisations are (constantly) entrenched in large-scale change efforts. However, these do not guarantee improvement, with various studies suggesting only about 25 to 50% of these efforts succeed, and numbers are declining. Given the shortcomings to current organisation design theory (chapter 1.2) and change management practices (chapter 3.2), a new approach could better link theory and practice to increase practical validity.

Therefore, strategic design is used as a new approach to describe organisations, their design and change processes. The research question following this idea is:

How can strategic design be of value in the understanding of and quest for progressive organisations, their design and the design and realisation of accompanying change efforts, to survive and thrive in the context of 21st century challenges?

raison d'être

environments

+

culture

+

grounding

≈

action agenda
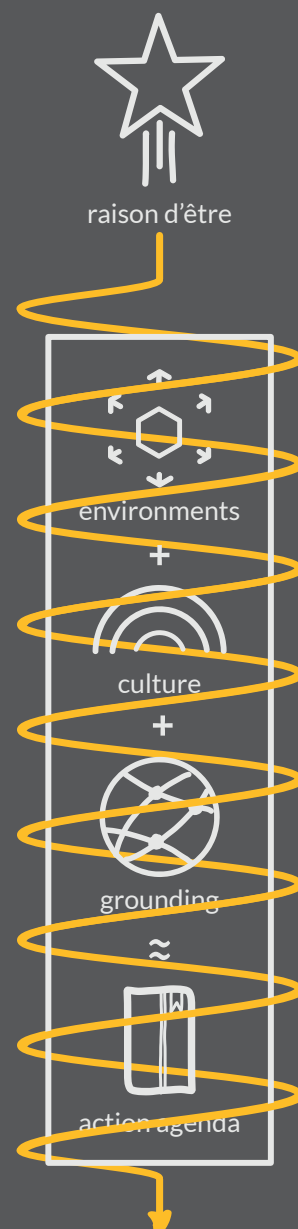
	be broad about it		change by changing
	approach from all angles		take one step at a time
	talk about the future		strengthen through technology

The research focuses on progressive organisations: those that are as ready for the present and future as possible and that (aim to) achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity (see chapter 1.4).

Increasing pressures on organisations are presented as the most pressing reason for them to change. These pressures are a mix of changes in technology, competition and demand (inside-out and outside in) and regulations. These and less pressing reasons for organisations to change are discussed in chapters 1.3 and 1.2, respectively.

The new approach to deal with these circumstances, design, is defined as 'having come to a point where it is a combined state of mind and the application of a more or less fixed set of tools, steps and processes to solve (wicked and ill-defined) problems. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced.' The three key principles that make up design are discussed in chapter 2.1.

Results

The focus on design leads to a new view on organisations as a set of organisational blocks and their connections. The approach, based on literature on progressive organisations, insights into design and prototyping and learnings from practice, is specifically human-centred. Organisations are defined from the viewpoint of the employee. The goal of this approach is to understand the organisation in a different way and make it possible to build a new organisation together with the employees in an iterative manner.

The various organisational blocks, as described in chapter 3.1, are: raison d'être, environments, culture, grounding and action agenda.

In order to achieve a progressive organisation, built on the aforementioned blocks, lessons from design and practice are combined to argue that the only way to deal with complexity is through iteration and repeated learnings. Based on this understanding, (semi-) controlled revolutions become the new approach to change efforts. The end-goal should not be to design or deduce static organisational plans, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled. This iteration is depicted in the figure to the left.

Given this understanding, a revolution is guided by three principles: going from planned to hacked, not forcing, but inviting people to join the effort and to stop managing the effort, but going viral. On top of these principles, chapter 4.1 discusses various tactics on the effort's initiation and implementation.

In order to increase the probability of successful change, and to increase the usefulness of this research, a revolution checklist is presented. Together, they encompass all aspects of the revolution that should be actively pursued and monitored. The checklist consists of six categories (depicted above), with various additional elements each. These categories are: be broad about it, approach from all angles, talk about the future, change by changing, take one step at a time and build on 21st century technology. Chapter 4.2 extensively discusses the separate elements, their base in literature and practice, and provides examples and tips to help practitioners engage in revolutionary change immediately.

The practical validity and of the checklist is discussed in chapter 5.1, along with a set of possible use cases that might inspire revolutionists-to-be.

INDEX

READING GUIDE

Throughout this thesis, the lay-out of text varies to reflect different types of information. Most of the text is presented in a regular font and colour, but some additional information is provided through other lay-outs.

The main research and most insight are presented like this. From chapter three onwards, additional insights of less academic standard and/or relevance take the colour of the chapter, so might be presented in various shades of green and blue. On some topics, I also added personal notes, which are recognisable by a less formal style of writing as well as being orange.

Quotes on certain topics have been enlarged, to make them easily recognisable. Definitions of concepts immediately relevant to answering the research question have been enlarged too. These have also been highlighted – in the colour of their chapter.

Regular text. Um re cum con conet et quam sumquam, senis des arum audandi tatiunt doluptat officiet ut fuga. Et ut vero idel id modit lat. Te velluptatur? Ga. Et aut quaspid quatusam, sitis

Additional insights. Os inus vendandis et iliam ratur a pero coressed quat veliam, et post, qui voleseq uuntum rem. Di to quatur? Cipitaspiet atquam, ius etur, volest inciis eum eiumque

Personal notes. Rovit fugia prateceped et, erit asintur? Ipis dictus mi, unt. Videliquam, coremoles dolore non re volori bla estrum. Ehendae nobitamusci dolorep erferib ersperi blatem fugiaer untiusae il es ditatur.

Quotes. Unt etur rerectem volorit eici vid ut pratqui alit et excearia abo. Ita quid molores cus esto ipsame ne et et od moloribus, num, sincient. Nus. Omnimollabor arum.

Definitions. Iquaturem. Te explab inum volupta ectendebis sed quidit, autes eum, occullorit que volenis velestiis que voluptat quidelit lacepudit, te nihillaciam, sum corrovid maio teni tectia ad maio.

INTRODUCTION

Over the course of one and a half years, my graduation project took a lot of turns and twists, so before I continue, I will try to explain the meaning of this final thesis as best I can. To do so, I will shortly summarise the research subject and explain my contributions to it. Also, I will highlight the significance my research has and formally state the questions this thesis strives to answer.

Research subject

This research aims to investigate the crossroads of design and business in modern-day society. Over the past few decades, the area of design has steadily increased its scope from the design of physical products, to (digital) interfaces, services to complex systems and strategies (Stappers, 2016). Both service design and strategic design oftentimes take place in the context of large and complex organisations with the goal of helping them deliver new value for customers. This research aims to take the field one step further and dives into the applicability of design not on the output of organisations, but on organisations themselves.

"Firms today have a one-in-three chance of failing within the next 5 years compared to one-in-twenty 50 years ago (Reeves & Püschel, 2015). In fact, according to a 2015 McKinsey study, the lifespan of an organisation has decreased from 61 years in 1958 to only 18 years in 2011. In 2027, about 75% of the stock market index Standard & Poor's companies could very well be gone (Desmet et al., 2015)."
- Stoimenova & De Lille, 2017

Organisations find it more and more difficult to deal with our changing times. All around us, much has changed over the last decades. Organisations themselves need to change in order to keep up with this sped up world. A focus on efficiency, bureaucracy and hierarchy has caused wide-spread silofication and does not cut it anymore in today's world. It is easy to come up with a number of large and/or famous organisations that failed to adapt (quickly) enough to survive: Kodak, Polaroid and Netscape are just a few examples. More recently, Boeing's 737 MAX-8 debacle has proven that even very successful organisations might struggle to adequately and swiftly react to surprise threats from an increasingly competitive environment[i].

To achieve better success, many organisations are (constantly) entrenched in large-scale change efforts. However, these do not guarantee success. According to a 2013 Strategy&/Katzenbach Center survey, only 54% of all large scale efforts succeed (Aguirre & Alpern, 2014), a McKinsey study suggests that this number lies around 30% (Ewenstein, Smith & Sologar, 2015), with a 2019 BCG article claiming the number might be as low as 25% and showing a downward trend (Fæste, Reeves & Whitaker, 2019) - see Figure 1. This must mean that there is room for improvement with regard to current theories and practices. Are we currently looking in the right direction? Are current tools and theories adequate enough to cope with the pressures of today's society on organisations? Can we develop new theories, new tools and new skills in order to assist organisations? What can other fields teach that of organisation design?

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i It is generally believed that, amongst many other reasons, the Boeing 737 MAX-8 is a flawed plane, because it was rushed through development. This happened after the industry (and Boeing) was surprised by the launch of the Airbus A320neo family in 2010, which had been developed in total secrecy and provided significant benefits to Boeing's then-current line-up (Campbell, 2019).

"Organisations must be designed to nurture long–term customer relationships, to respond with speed and agility, and be free to seize new opportunities."
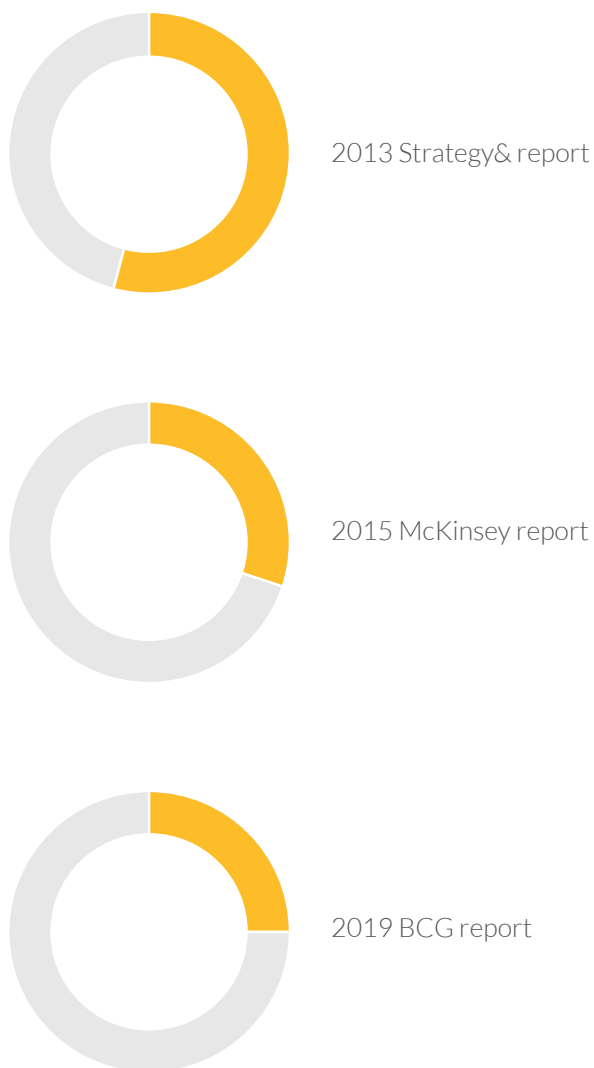
frogdesign, n.d.

Knowledge gaps

Even though organisation design is an existing field of research, most of the effort nowadays seems to go out to the concept of organisations, and not to that of the design of organisations (Miller, Greenwood & Prakash, 2009). Over the past century and a half, a lot of research has been done on the concept of organisations. In fields as broad as organisational behaviour, organisational structure, business management and change management(Puranam, 2017). The results of these studies, fields and practices describe organisations, companies and businesses in abstract terms and models such as efficiency, labour-specialisation, bureaucracy, structures and silos, and employee or organisational behaviour. Clinical and inanimate terms like these help describe organisation design as a noun: the structural chart of the organisation, accompanied by many abstract phenomena that describe the inner workings on a level where human aspects are either forgotten about or seen as manageable inconveniences.

Research has mostly been retrospective or descriptive, rather than procedural and/or prescriptive, resulting in low 'pragmatic validity' (Dunbar, Romme & Starbuck, 2008). Even when the aim is expressly to design organisations, like in the book 'Organisational Design: A Step-by-Step Approach' by Burton, Obel & Døjbak (2011), the entire approach seems to be clinical and inanimate - detached from actual employees as much as possible. As a designer, these approaches and the use of such terms feels inadequate. An approach on a more human scale might lead to different insights and a renewed understanding of organisations in our current times. Moreover, scholars in the field of organisation studies themselves agree that the field is currently too detached from practice and practitioners, with scholars attributing this to the lack of collaboration with practice. This leads to so-called 'lost-in-translation' and 'lost-

2013 Strategy& report

2015 McKinsey report

2019 BCG report

Figure 1 Average success rate of change efforts, according to reports.

before-translation' problems for the field of organisation theory (Palmer, Dick & Freiburger, 2009).

At the same time, while the field of design is steadily expanding (Stappers, 2016), not much research has been conducted into the design of organisations (De Lille, 2019). So even though much knowledge has been gathered over the years on the application of design in the context of complex multi-stakeholder problems, the design of organisations poses a knowledge gap.

Significance
As a result, a different research approach, where the more human-centred viewpoint of design is applied, might prove to be a double-edged first step. It is generally accepted that new ways of doing research often provide radically new insights. This research will contribute to the field of organisation design with a renewed focus on 'design as a verb' and on studying issues within organisation design through a design perspective. It therefore (partially) heeds a call from 2009 by Miller, Greenwood & Prakash to investigate such issues once more.

The significance of this thesis to the field of design seems to be evident. Since the application of design principles to organisation design is relatively new, and not much research has been done on the subject, a serious attempt to explore the ways in which design can help us understand the area and design principles can help improve the area can be of value.. This value is added both to the domain of design, as that of business and can further the academic understanding and actual practice in both fields. Moreover, the findings of this thesis can be of help to current and future MSc students and PhD candidates at the Faculty of Industrial Design Engineering at the TU Delft when researching similar fields.

Problem definition
Research question

How can strategic design be of value in the understanding of and quest for progressive organisations, their design and the design and realisation of accompanying change efforts, to survive and thrive in the context of 21st century challenges?

Dissecting the question
Design has come to a point where it is a combined state of mind and the application of a more or less fixed set of tools, steps and processes to solve (wicked and ill-defined) problems. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced. This concept will be discussed in chapter 2.

An organisation is a group of people with a clearly identifiable boundary, working together to achieve a certain (shared) goal or set of goals. Progressive organisations are those that are as ready for the present and future as possible and that (aim to) achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity. This concept will be explored in chapter 1.

Organisation design is the process and state of continual and deliberate alignment of the component elements of an organisation. The current approach to (and pitfalls of) organisation design will be discussed in chapter 1, my new take on the component elements of an organisation follows in chapter 3.

The 21st century challenges facing organisations are a mix of changes in technology, competition and demand (inside-out and outside in) and regulations. These are discussed in chapter 1.

Thesis structure

To answer this research question, this thesis has been structured through the following chapters:

1. This chapter explores what an organisation is, and how organisation design has taken place over time. It discusses the shortcomings of organisation design and the changed circumstances that force organisations to adapt. Finally, the concept of progressive organisations is introduced as a possible way of thriving and surviving in the context of 21st century challenges.

2. The concept of design is explored and a definition for design is provided. Various principles that make up the practice of design are explained and, through a brief history, the expanding field of design is illustrated. Moreover, the use of prototypes is explored and explained to be a key factor in the application of design practice to organisation design.

3. A new view on organisations is presented, based on literature and insights from design. In this new approach, various (interconnected) organisational blocks make up an organisation, from a human point of view. The goal of this approach is to understand the organisation in a different way, to make it possible to build a new organisation together with the employees in an iterative manner. The realisation of such organisational blocks will require some form of change management, so this topic is briefly discussed.

4. In order to maximise the potential success of changing towards progressive organisations, the concept of iterative (controlled) revolution is presented, along with a checklist of principles that will help the change effort in various ways.

APPROACH

Project timeline
The execution of this project was hindered quite a for personal reasons. Therefore, the project timeline is a little more complicated than usual. In Figure 2, a simplified overview is given of the project's process, with an index to reflect the level of productivity I achieved throughout the project's timeframe.

Theoretic iterations
As explained before, this project took many twists and turns and as a result, many of the findings are unexpected outcomes of a meandering process. The structure of this thesis is a logical exploration of the subject, and in no way correctly reflects the (chronological) development of my understanding of the topic. Since many of the insights and statements presented in this report are the result of continued iteration, and to explain how such a process takes place, I will try to showcase one or two such instances of co-evolution of problem and solution. Most of the findings in this thesis, though presented here in a matter-of-factly manner, are the result of such trial and error. However, I chose to write them down in their end-state of my understanding in order to save time and space.

Examples
1) The exacerbating circumstances, as detailed in chapter 1.3, evolved over time. Based on theory by Ahlbäck et al. (2017), I initially defined four pillars of circumstance: competition, demand, technology and regulations. With this base, I proceeded to read literature on organisational pressures and added subcategories for competition (a competitive playing field and the acquisition of talent) and demand (demand from customers and demand from employees). This is how the theory was presented at the 2018 London Academic Design Management Conference. Since then, however, the new-found literature on change management has led me to cluster competition and demand into one pillar and add subcategories that reflect the division between inside-out and outside-in pressures. This better reflects the overlap that exists between, for example competition on talent acquisition and employee demands. Finally, recent news articles (and my sister's Bachelor thesis on the legality of fast food delivery services in The Netherlands) led me to expand my understanding of the regulations-pillar. Where first I assumed regulation-related pressures to be one-sided (from governments and other authorities towards organisations), I now believe these pressures to be two-sided, with organisational innovations and changes informing and necessitating some changes in regulations.

2) For quite some time, the goal of the project was to 'prototype for organisational agility'. Only in the later stages of the process, did I realise that the concept of design was more important than only that of prototyping. More importantly, I struggled with consolidating the theory on agility and ambidexterity. On top of this, through people close to me, I realised that engagement was an important aspect of my (already largely defined) model as well. As a result, I read extra material and, through an inspiring workshop and meet-up in Berlin, realised that ambidexterity and engagement weren't part of becoming agile, but the three were part of striving for progressiveness. Hence my current explanation of achieving progressiveness.

3) Finally, the relations between the various parts and models within this thesis were a point of constant iteration. The progress described in this text is depicted in Figure 3, where the various steps mentioned here are overlayn on the process overview of Figure 2. Initially, the first part of the findings were presented as the 'prototyping for organisational agility model', as can be

ODS Reset
kick-off meeting
lecture organisation
design for DSP

presentation
at DDW DRIVE

sep. '17   **oct. '17**   **nov. '17**   **dec. '17**

forming committee
first draft assignment

official start of project
desk research on
organisational structures
and prototyping

desk research on
way of working, agility
and thematic silos
looking for metaphors

clustering organisational
elements and approaches

first SuperTrooper
day at IDE faculty

intership start   introduction
at KLM   to F720 case

jan. '18   **feb. '18**   **mar. '18**   **apr. '18**

creating ADMC
abstract and exploring
changing circumstances

continued research
and talks on the field
of design and design
principles

writing ADMC paper
desk research into
prototyping literature

finalising design
principles and creating
first batch of illustrations

Design @ Business conference

video presentation
at ADMC London

may. '18 – dec. '18

personal situation - mostly at home
writing final ADMC paper
filming presentation

commitee meetings
on new approach

one-on-one interviews
with designers in large
organisations

visit to Corporate
Rebels Berlin

jan. '19   **feb. '19**   **mar. '19**   **apr. '19**

reading existing
material and working
towards revised model
focus on change
management

desk research on
change management
and clustering into
change principles

structuring insights
and start of change
management
blocks

writing report
creating illustrations
from change blocks
to revolution
blocks

only questionnaire and
one-on-one interviews
with students & (design)
professionals

green-light
meeting

final graduation
presentation

may '19   **jun. '19**

ideation sessions
on designerly approach
to revolution principles
finishing report
preparing green-light

validation on real-world reception
content iteration on design theory,
organisational blocks and checklist
resolving comments
preparing presentation & deliverables
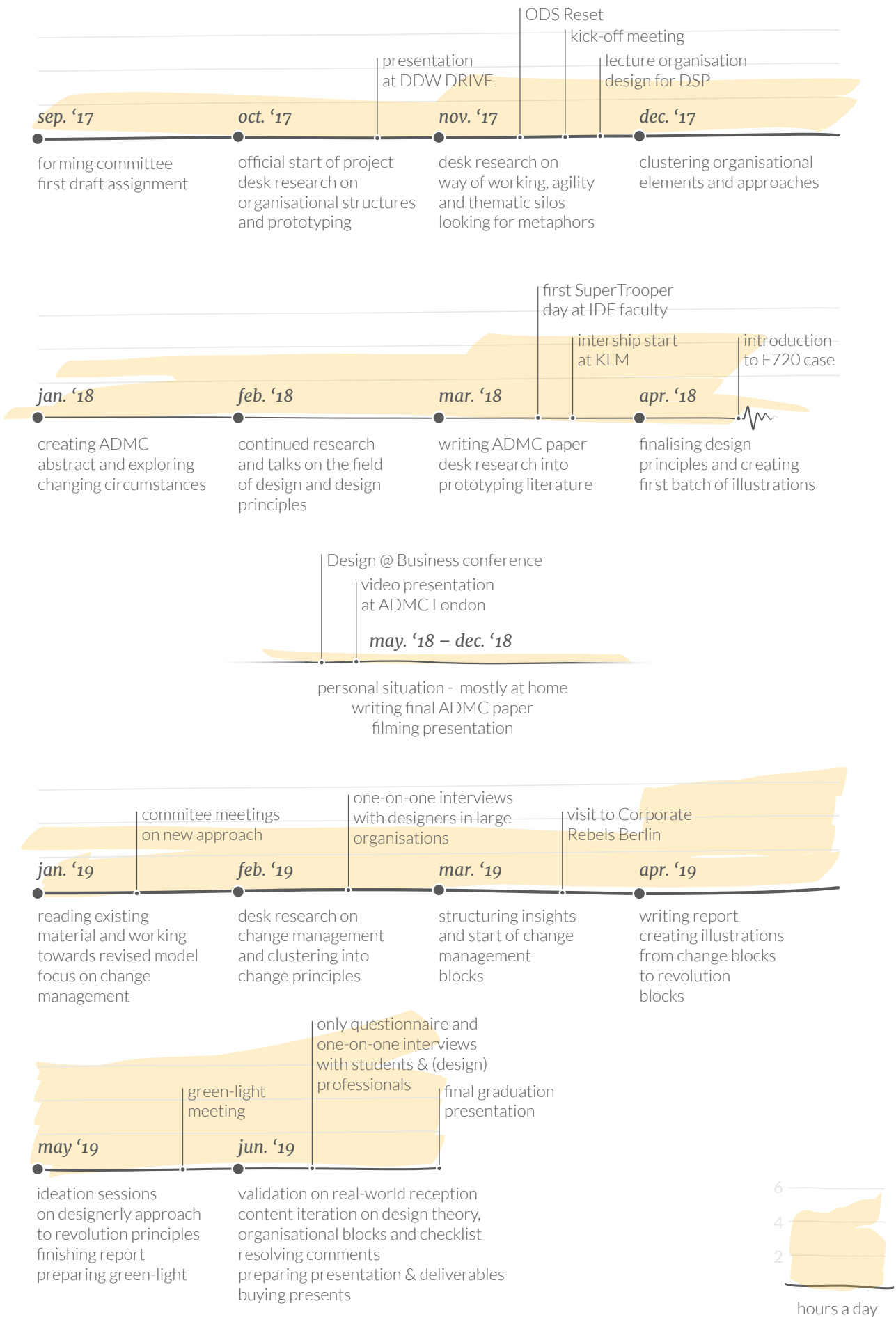buying presents

6

4

2

hours a day

Figure 2 Overview of the global project timeline, with main activities and average work load displayed for each month.

seen in the various texts and figures that made up the ADMC paper, which can be found in Appendix C. This led to the development of models 1 and 1b. Afterwards, in order to better scope the remaining research, I tried to focus on a few elements within the model that could together form a narrative for a change effort, to better guide the process (model 2). This led me to conclude that the model should not be scoped but expanded upon and include learnings from change management. At first, I tried to cluster the new findings on change management with the existing findings, to no avail (sidestep 1). The additional research led to a second set of findings, which I then called the organisational change blocks (a second set of tools), with the intention of finding a way to merge these with the original organisational blocks (model 3).The pursuit of a unified model on process, elements and principles eventually led me to understand that, though intertwined, these aspects are all quite different and not directly unifiable (within the given timeframe), so an attempt to unify the organisational blocks with the organisational change blocks as a means to guide the process became sidestep 2. In the end, this led to development of the deliverables as they are now: a set of organisational blocks, a general revolution process based on certain principles and organisational realities, and a checklist for organisational change. This too was part of a two-step iteration where the first approach (model 4.1) lacked a few last-minute insights on how to best visualise the various elements of the overall theory and their links. The final models (model 4b) are presented in Figure 28 and Figure 29.
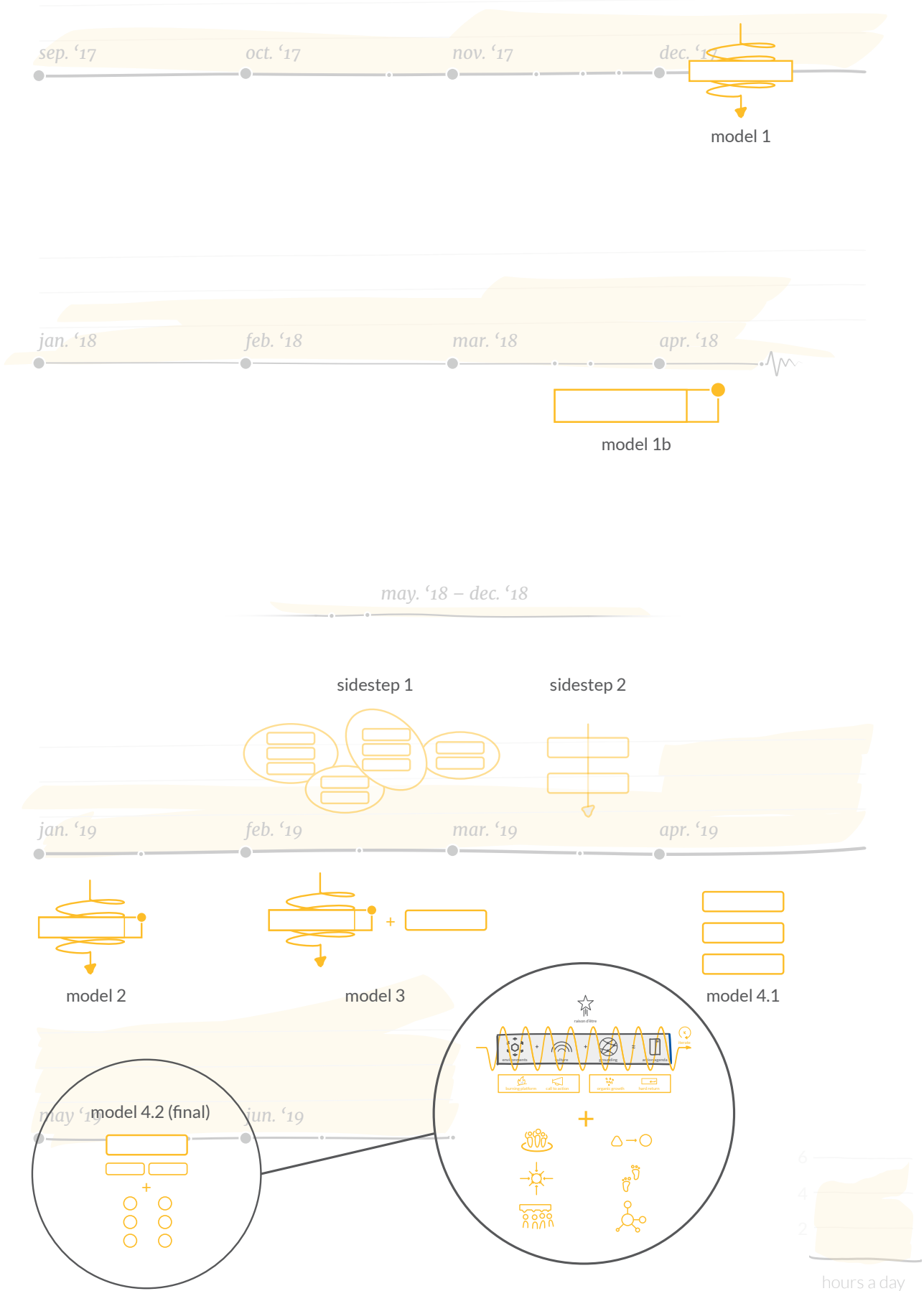
sep. '17   oct. '17   nov. '17   dec. '17

model 1

jan. '18   feb. '18   mar. '18   apr. '18

model 1b

may. '18 – dec. '18

sidestep 1   sidestep 2

jan. '19   feb. '19   mar. '19   apr. '19

model 2   model 3   model 4.1

model 4.2 (final)   jun. '19

may '19

hours a day

Figure 3 Overlay of the various model iterations on top of the project timeline.

SEGMENT ONE

STRUGGLING ORGANISATIONS

1.1 What is an organisation?

In order to understand the field to which we will try to apply design (organisations), I first provide a simple and closed definition. Here, I will explain that an organisation can be easily defined and recognised as a system that meets four simple conditions. I also argue that, in the context of this thesis, the distinction between an organisation and legal or societal terms as a company is not relevant.

1.2 A look at organisation design.

Now we understand what an organisation is, let us try and understand why organisations aren't currently all equipped to be future-proof. To do so, I provide a definition on organisation design and combine a set of theories from the field of organisation design to give a glimpse into development of the field over times. I then discuss some issues I found to come up as a result of these 'regular' approaches.

1.3 Increased contextual pressures.

Since I believe the changing circumstances of our time to be the most pressing reason organisations need to change, I want to take the time to elaborate on these and categorise them somehow. What are these changing circumstances, and why do they put increased pressure on organisations? Internally, and externally, what has changed about the world of organisations that makes them need to change so badly? We will dive into several contextual pressures that contribute to this need for change.

1.4 Towards progressive organisations.

Now that I have explained what organisations are, why they need to change even more and faster than ever before and that the old ways of organisation design seem to show critical shortcomings, it is time to explore where organisations should be heading. To do this, I introduce the concept of progressive organisations. Progressive organisations rely on three principles to make them as future-proof as possible. This chapter introduces and explains these three principles.

1.1 WHAT IS AN ORGANISATION?

In order to understand the field to which we will try to apply design (organisations), I first provide a simple and closed definition. Here, I will explain that an organisation can be easily defined and recognised as a system that meets four simple conditions. I also argue that, in the context of this thesis, the distinction between an organisation and legal or societal terms as a company is not relevant.

Defining organisations

According to Puranam (2017), who extensively studied the various expects of organisation design, many scholars have some elements in common (see Figure 4). In essence, they portray an organisation as a system with the following attributes:

5. It contains more than one agent.
6. The boundaries of the system are identifiable. These boundaries can be open and dynamic, but must make clear what 'the organisation' is and where it begins and/or ceases to exist.
7. The system must be able to be described in terms of (a) goal(s). This way, a system can be recognised as an organisation once you understand its purpose. This purpose mostly takes the form of gains as the result of group effort that cannot be achieved by individual members acting by themselves. It is valuable to note that an organisations goals might be implicit.
8. The agents' cumulative efforts must contribute

towards achieving the organisation's goals. This might be true, even when its agents' personal goals deviate from the overarching organisational goal. For example, a certain individual might solely 'sit out' their job to receive a pay check at the end of the month, but can still contribute to the organisation's overall goal in doing so[i].

When put together for the remainder of this thesis, the definition for an organisation[ii] is as follows:

An organisation is a group of people with a clearly identifiable boundary, working together to achieve a certain (shared) goal or set of goals.

Organisations vs. companies

This means that I treat the idea of an 'organisation' in a similar way to that of a 'company', 'business' or 'corporation', but without a focus on the financial and legal variances between these entities and any deeper reasons for being, other than achieving a shared goal. Societal or linguistic connotations to these terms only dilute the concept, without adding much value to the research. I also perceive organisations to be instrumental, i.e. a means to an end, not the end itself, just like Puranam (2017). Even though they might add more value, even beyond the achievement of the organisational goal itself, e.g. to the individuals within the organisation, it is not relevant in this context. Simply put:

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i In my personal opinion this should be seen as an extreme scenario to illustrate the principle. In modern day organisations, one should strive to keep their employees motivated and engaged. This is beneficial for their productivity as well as their personal well being. I know this to be an illusion of positive thinking, but believe it to be true nonetheless.

ii Please note that this is just one definition of the subject, meant to scope organisations in the context of this research. It provides a practical and tangible base for the exploration of organisational design and change efforts from a design perspective, and is concrete enough to support subsequent recommendations for practice. By no means is it the only way of looking at organisations. Other academic fields, such as social constructionism, have generated completely different views on organisations.

an organisation should never exist or continue to exist for the sake of existence - its existence always facilitates the achievement of a larger goal. In this, I disagree with Puranam (2017), who beliefs continued existence to be an uninspired, but valid organisational goal.

multiple agents

identifiable boundary

shared goal

cumulative effort

Figure 4 Schematic overview of the vital elements to define an organisation. Based on Puranam (2017).

1.2 A LOOK AT ORGANISATION DESIGN

Now we understand what an organisation is, let us try and understand why organisations aren't currently all equipped to be future-proof. To do so, I provide a definition on organisation design and combine a set of theories from the field of organisation design to give a glimpse into development of the field over times. I then discuss some issues I found to come up as a result of these 'regular' approaches.

Defining organisation design

In literature on the topic, what an organisation is, is completely intertwined with how it is designed. Miller, Greenwood & Prakash (2009) describe organisation design as 'the process and state of continual and deliberate alignment of the component elements of an organisation: its strategy, its structures, its human resource practices and accountabilities, and its information, control, and decision processes'. As a result, one can conclude that he (and his field of literature) understands an organisation as a concept consisting of several component elements, namely: strategy, structures, human resource practices and accountabilities, and the processes in place for with regard to information, control, and decisions. As theorists, Miller, Greenwood & Prakash also state that, especially in the past, research into organisation design was aimed at understanding how organisations 'arrange themselves to hand complex tasks successfully' and to understand why these arrangements are effective for some more than others.

To make more clear what these complex tasks are, Puranam makes them more concrete by segmenting them into two abstract elements, when he states that organisation design is a part of organisation science concerned with 'understanding a) how organisations work in terms of aggregating the actions of their members towards organisational goals and b) how to

make organisations work better.' This is completely in line with Thompson (1967) view on design as 'the means for establishing the boundaries of the firm and structure as concerned with the internal division of labour and arrangements for securing coordination'.

Changes in organisation design

Over time, there have been leaps in the understanding of organisations, the approach to exploring them and the insights into what their design looks like and how to design them. A short overview of these is given below, based on a set of different summaries. The idea is to set apart two distinct ways of looking at organisations that are relevant to the context of this thesis, see Figure 5. As a result, many other classifications have been left out and usually separate theories have been merged to form a simple but clear picture.
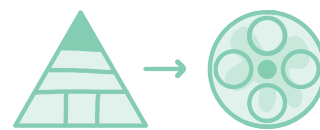
**FROM ORGANISATIONS AS 'MACHINES' TO ORGANISATIONS AS 'ORGANISMS'**

Figure 5 Representation of the different views on organisations.

Organisations as (static) machines

The advent of the industrial age and with it steam power, mass-production and factories led to a dramatic scale-up of labour and organisations (Gruber et al., 2015). The long-lasting period of craftsmanship and small workshop came to an abrupt ending as the types of organisations we know today started to sprout out everywhere. Pioneers took to new forms of setting-up and organising labour. Their focus was on efficiency and scale-up issues through bureaucracy, work flow optimisation and task

> *"Thus, if we wish to design a system of agents that accomplishes a goal, we are aspiring to create an organization."*

Puranam, 2017
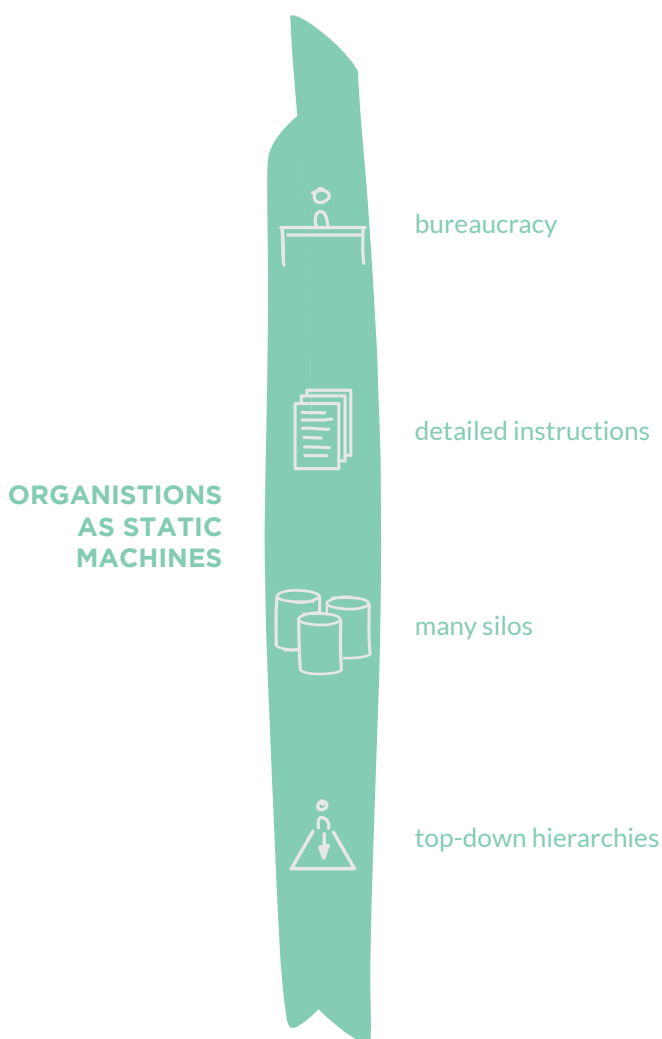
specialisation (Puranam, 2017). There-in also lie the power of their wave of organisation design; with Ford's business and his implementation of the assembly line as arguably the most famous success story. Important names of the time are Weber, Taylor & Ford, as they came up with dominant ways to optimise labour and workers (Gruber et al., 2015) for more profit.

The second large wave of organisational design and theory is the Carnegie school (Puranam, 2017), with Simon as a famous contributor. These theorists begun to make (the design of) organisations part the domain of scientific enquiry. This meant that they no longer aimed to develop normative theories with easy-to-grasp and directly implementable management principles for organisations. As a result, from this point onward, other scientific principles, such as psychology and decision-making, began to be intermingled with the field as well. An important concept from this wave of theories is the idea of bounded rationality (Simon, 1972). If rationality is behaving in an appropriate way to achieve certain goals, then rationality on organisational and individual levels are usually very similar. However, on an individual level, rationality in decision-making is limited because a person has limited information-processing abilities. Simply put: when making decisions in your job, as a human actor you do not possess unlimited knowledge, time and processing power to make the best decision possible. Therefore, people will resort to 'satisficing' (Colman, 2006): a decision-making strategy where one keeps searching through alternatives until a satisfactory one is reached (a solution that meets a certain threshold).

ORGANISTIONS AS STATIC MACHINES

bureaucracy

detailed instructions

many silos

top-down hierarchies

Figure 6 Characteristics of the machine-based view on organisations.

The third large wave of organisation design, according to Puranam (2017), can be described as the 'macro-structural' approach, in which organisations are viewed as complicated, but understandable and describable unitary entities. The aim of these theorists is to understand them and explain how they co-exist with their surroundings.

"...entire organisations can be portrayed as integrated wholes in dynamic interaction with their environments" - Miles and Snow, 1978[i].

As a result, the focus lies in defining organisations in terms of organisation-level constructs (such as size, hierarchy, structure), like Mintzberg did when breaking them up into five generic components (1979) and characterising their environments along a set of dimensions (such as turbulence and uncertainty). The goal is to explain how these high-level concepts provide the organisation with adaptive advantage in certain environments. Logically, the outcomes of such research are high-level definitions and descriptions, such as process blocks or high-level structure guidelines that may provide some sort of overview or understanding in an academic context, but do not lead to any (practical) relevance or significance on a human level.

These three generations of theories and design approaches led to 'the management century', according to Aghina et al. (2017). They state that the old paradigm, that of the machine organisations (after Morgan, 1986) is making way for that of the new paradigm: organisations as organisms.

flexible resources

fully responsible teams

ORGANISTIONS AS DYNAMIC ORGANISMS

focus on action

enabling leadership

i referenced through Jackson, & Mansell, 1991 and Puranam, 2017

Figure 7 Characteristics of the organic view on organisations.

Organisations as (dynamic) organisms

The fourth and final wave Puranam (2017) describes, is his 'micro-structural approach', which he believes "helps us to take another step, because it allows for a recognition of the internal diversity and complexity of organisations by focusing on units at lower levels of aggregation (modeled via representative agents) as well as on the relationships between them." In essence, Puranam describes organisations as groups of smaller and simpler patterns that keep repeating themselves (and are similar enough to be described as identical) - all within the reference frame of an organisation as a clearly bounded entity consisting of multiple agents working towards a shared goal. He argues that understanding how these smaller groups function is both necessary and sufficient to understanding how the organisation as a whole works, but makes no connection between how, for example, the goals of these smaller groups align with and relate to the overall organisational goal. This might be because, according to Puranam, all organisational issues can ultimately be brought back to the division of labour and the integration of effort. When you understand how these link from the individual to the organisational level, you understand the organisation and can thus design for it.

This view of organisations as groups of unified and equal small entities is in line with the view of organisations as living organisms as proposed by Aghina et al. (2017), in which they also identify organisations to be built up of 'teams built around end-to-end accountability'. Fæste, Reeves & Whitaker (2019) talk about organisations as biological systems made up of smaller entities (which can differ significantly from one another). Their opinion, however, is that organisations behave like nested complex adaptive systems and any change in the system, at any level, can cause unintended and unpredictable changes all over the organisation. In the end, however, Aghina et al. ,

Puranam Fæste, Reeves & Whitaker agree that changes to the organisations environment and internal goals necessitate constant organisational adaptation (even though unpredictable outcomes might occur).

Downsides of these approaches
Abstract, conceptual and inanimate

In the research streams described above, organisations are often portrayed through functional and clinical terms. The theory is abstract and conceptual. At times, it also seems inanimate, in the sense that theory often foregoes the fact that organisations are made of human beings with certain needs.

Puranam acknowledges the human actors of an organisation, but explicitly mentions that organisations need to solve for division of labour and integration of effort in order to deal with basic human flaws as bounded rationality (Simon, 1945; via Puranam, 2017) and promotion of self-interest (Williamson, 1975; via Puranam, 2017) - otherwise they can't even exist as organisations. "Absent arrangements to retain and motivate individuals, enable them to undertake their assigned tasks (which aggregate towards the organisation's goals) in a coordinated manner, one cannot recognise the existence of an organisation as defined (i.e. as a multi-agent system with identifiable boundaries and system level goals towards which the constituent agent's efforts make a contribution)."

Such abstract views, decoupled from any humanity, can also be found in the definition of organisation design of Miller, Greenwood & Prakash (2009), since according to them an organisation is merely set of component elements, namely strategy, structure, HR accountability practices, and information, control, decision processes.

For a designer, focusing on the abstractions behind the concept, and zooming in on humans only to the effect of dealing with their flaws seems inherently wrong. It foregoes all human-centredness and the positive behaviours, attitudes andattributes of people, like the inane will to contribute to a larger whole, or to do something meaningful. The focus can much better be placed on humans as complex individuals with both positive and negative traits, that all pose opportunities and can be (partially) influenced (van Lieren, 2018). The danger of zooming out too much is that possible solutions only make sense on an abstract level as well, and do not take human factors into account (rendering them practically useless). Furthermore, the solution space becomes drastically smaller, since solutions will want to tackle large abstract constructs, instead of smaller, more manageable human traits and behaviours.

Design: noun or verb?

Even though Miller, Greenwood & Prakash (2009) state that organisation design entails 'continual and deliberate alignment', many of the theories and theorists described above treat organisation design as a noun. A design is a blueprint for dealing with the universal problems of organising - those being the division of labour and the integration of effort. It's a more-or-less static representation of the build-up of an organisation. According to Dunbar, Romme & Starbuck (2008), many wirings on organisation design center around the idea of 'fit': alignment or congruence of organisational components to the environment. Puranam also writes that:

"[...] the solutions an organisation embodies to the universal problems of organising are neither perfect nor permanent. Changes to the organisation's environment and its goals therefore necessitate new solutions to the universal problems of organising or at least improvements on existing ones."

However, no one seems to write anything about a process to do so, or seem to take into account these changes in their descriptions. Especially in the light of organisations as living organisms that are ever-changing and ever-in-motion, this becomes more and more problematic. Moreover, notions of fit do not take into account the fact that environments are unstable and changing as well, with the level of fit thus constantly shifting as well (Dunbar, Romme & Starbuck, 2008). As a result, one could draw a parallel between these ageing approaches of developing a static design blueprint and the old forms of project management, where elaborate plans are worked out step-by-step and continuously cascaded over deadlines, like a waterfall (Wegener, 2019). When finally finished, the project does not deliver because too many complex decisions and assumptions were made, and the environment has changed since project initiation. These approaches have since been iterative and agile approaches that emphasise failing more quickly to test assumptions (more on that later). Like waterfall management has decreased in popularity, maybe so should approaching an organisation design as a static concept.

Theorists as decoupled and unfocused

Miller, Greenwood & Prakash (2009) argue that 'the field of organisation theory has for long neglected the fine-grained study of design'. According to them, many of the theories either ignored the problem of designing an organisation, or oversimplified all concepts to such an extent that they did not really lead to insights that could help the practitioners: people working in organisations. They argue that theories especially 'abuse[s] the complexity of contemporary organisations'. In essence, the theory is so far decoupled from practice, that organisations cannot really use the theories in designing or adapting themselves (Palmer, Dick & Freiburger, 2009). Miller, Green & Prakash (2009) provide a host of

different reasons for this dichotomy, which will not be discussed here. However, Shapiro, Kirkman & Courtney (2007) neatly summarise the issues as either 'lost in translation' (i.e., theoretical knowledge is not presented to practitioners in an adequate manner) or 'lost before translation' (i.e., theoretical knowledge and practice are too much decoupled from one another from the research's initiation). Miller, Greenwood & Prakash argue that design just has not been a part of theories for a while, even though it should be.

"If change or innovation theorists claim that firms must have the capability to change, it is a relatively simple matter to alter a policy, but a much harder one to build an organisation that can enact the policy effectively. How do managers build the new organisation?" - Greenwood & Prakash, 2009

This happened in a context where a focus on design should have been paramount, as the following McKinsey quote demonstrates.

"For any large company, the value of better organisational design is literally in the tens of billions of dollars of increased market value. . . We believe organisational design is the key to unlocking the opportunities of the 21st century." - Eisenstadt, Foote, Galbraith, & Miller, 2001 - via Miller, Greenwood, & Prakash, 2009)

Interestingly, Mintzberg, the author of many theories on organisations, has himself started to question if the current knowledge and subsequent theories and education practices are actually right in helping people lead and change organisations (Mintzberg, 2017).

Increased contextual pressures

Finally, the context in which organisations are to exist, our world, has drastically changed over the last decades. This means that the theory and practice from the last decades just does not hold up anymore. It has led to organisations that made sense then, but do not necessarily now. As highlighted by the new focus on organisations as organisms (Aghina et al., 2017), new ways of looking at organisations are necessary. Possibly, this also means that new ways of designing organisations are necessary. The extent of contextual change and the resulting pressures are explained in the next chapter.

Note: The drawbacks highlighted here are possibly partially or wholly addressed in different (theoretical) fields - such as organisational change and organisational learning, but the scope and time frame of my research did not allow me to explore those. This is why I propose to focus on how our interpretation of design, which will be detailed further on in this thesis, can be of value to the field of organisation design.

1.3 INCREASED CONTEXTUAL PRESSURES

Since I believe the changing circumstances of our time to be the most pressing reason organisations need to change, I want to take the time to elaborate on these and categorise them somehow. What are these changing circumstances, and why do they put increased pressure on organisations? Internally, and externally, what has changed about the world of organisations that makes them need to change so badly? We will dive into several contextual pressures that contribute to this need for change.

Technology

With the advent of the digital age (i.e., the widespread use of broadband internet, smartphones, tablets, social media , etc.), companies have started to be subjected to increasing competitive pressure (Ahlbäck et al., 2017) and need to face the speed of instant communication in various ways (Miller, Greenwood & Prakash, 2009). The competitive landscape in which they operate changes at an ever greater speed. Many companies still struggle with their current approach to digitisation (Bughin et al., 2018), with the next wave of large digital change influences (Big Data and AI) already underway. These developments have come at an almost incomprehensible pace for current businesses. They struggle implementing them in their current product and service offerings, as well as their workplace. At the same time, incumbents adept at these technologies sprout out of nowhere, leaving existing organisations vulnerably behind (Gruber et al., 2015). Technologies change more than the way organisations do business, as they also rewrite the rules of value-delivery, with mass-customisation of production (or service) being a key example of this (Miller, Greenwood & Prakash, 2009).

Competition & Demand
From outside-in

Meanwhile (and possibly partly as a result of these technological changes), demands on the organisation have greatly increased as well (Ahlbäck et al., 2017). These demands come from consumers, competitors and investors. And as a result of large-scale and continuous globalisation (which, in turn, hinges greatly on the technological advances as discussed above), these groups' pools have only increased (Miller, Greenwood & Prakash, 2009) and demand has and will become more unpredictable (Schein, 2004; Ahlbäck et al., 2017). Products and services developed by organisations to satisfy (culturally diverse) user needs are subject to higher and higher expectations and consumers with increased power (Wang & Ahmed, 2003) are demanding near non-stop lines of coherent and personal communication (i.e., relationships) with companies (Kotler & Armstrong, 1980) as a result of ever greater social media presence. Through servitisation of many value-propositions, companies have created an environment where a constant (critical) dialogue with consumers is possible and necessary. These demands have not gone unnoticed by financing parties either, 'as capital flows and investor demand have become less predictable' according to a 2014 strategy+business article (Aguirre & Alpern, 2014).

"Following the paradigm shift from the industrial and experience economy to the knowledge economy, we live in a world of constant and rapid change; one in which users expect evolving, personal experiences." - Gardien, Rincker & Deckers (2015)

The old business paradigms of efficiency through bureaucracy, work flow optimisation and task specialisation, Weberism, Taylorism & Fordism, have become outdated in light of this increased demand

technology

competition & demand

regulations

outside-in

inside-out

Figure 8 Summary of the changing circumstances organisations face.

for flexibility of the organisation to deliver on value-creation, and a stronger emphasis on the needs of employees. This does not mean that efficiency is now unimportant. On the contrary: the globalisation has only increased the need for efficiency, with many organisations outsourcing and focusing on 'core competencies' as a result (Miller, Greenwood & Prakash, 2009). Optimising one's company in such ways simply is not going to cut it anymore in the face of rapid change. These approaches of scientific and bureaucratic management lead to the omnipresent organisational silos, which hinder agility (Ahlbäck et al., 2017) through lack of collaboration and communication (Pullin, 1989) and are often aimed at achieving local goals, with a focus on risk-aversion (Bughin et al., 2018). They are well-suited for static environments, not the dynamic ones as seen today.

From inside-out

This realisation comes at a time characterised by an ongoing competition for talent (Gruber et al., 2015), where employee expectations have greatly increased. The new labour force, generation Y, has different expectations from those before them. They want to be able to pursue personal growth in a job that also provides them with meaning, all the while maintaining some form of flexibility (Gruber et al., 2015). Job hopping has been described as the 'new normal', and millennials are expected to hold 15 to 20 positions over the course of their working lives (Basford & Schaninger, 2016). Vielmetter & Sell (2014) write that a culture of openness, knowledge sharing, and more employee autonomy is becoming more important with rising individualism (which was enhanced by the rise of the internet and social media). This is because the aforementioned technologies blur the boundaries between work, rest and play, and have the power to transform the workplace experiences. Employees are

also consumers and have grown accustomed to smooth digital experiences outside of their work, which they now seek in their workplace environment as well (Gruber et al., 2015). Morgan (2017) argues that investments in the employee experience, where organisations create a workplace where people want to – not just need to – work, lead to 'larger talent pipelines'. His research also shows that results include happier employees and greater profitability and productivity – with companies investing in employee experience outperforming those that do not by large margins. According to Ewenstein, Smith & Sologar (2015) argue that those same digital tools that improved the B2C environment can be used to improve organisations and, especially, to improve a change effort itself.

Regulations

Finally, changes in regulations may occur at any moment in time and force organisations to adjust any number of aspects crucial to their existence (Ahlbäck et al., 2017). A solid example of such a change is the 2016/2018 General Data Protection Regulation – a consolidation of all EU data protection laws that has resulted in large-scale compliance programmes that, for example, should include cross-functional task forces (Mikkelsen, 2017). On the other hand, new forms of value creation can also put a strain on existing regulations and force changes to or reinterpretation of laws already in place. Organisations like Deliveroo and Foodora have created business models on questionable (and sometimes overturned) interpretations of labor law (Pelgrim, 2019) and organisations like Uber and Airbnb have operated with constructions that, according to many, violated laws and other regulations from the start.

"To improve is to change.

To perfect is to change often."

Winston Churchill

1.4 TOWARDS PROGRESSIVE ORGANISATIONS

Now that I have explained what organisations are, why they need to change even more and faster than ever before and that the old ways of organisation design seem to show critical shortcomings, it is time to explore where organisations should be heading. To do this, I introduce the concept of progressive organisations. Progressive organisations rely on three principles to make them as future-proof as possible. This chapter introduces and explains these three principles.

In the context of this thesis, progressive organisations, those that are as ready for the present and future as possible, are those that (aim to) achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity, see Figure 9. The scope of this thesis is not to explain how to indefinitely achieve all of these (this is simply too large a task), but the concept of progressive organisations is that they achieve these abilities to some extent and continue to work towards improvement.

Agility

Agile methodology has been steadily growing as a business practice and topic of research since the publication of the agile manifesto in 2001 (Beck, et al., 2001). Over time, it has gained large-spread attention and been hailed as the saviour of industries. In this context, the near-singular focus is on the agile way of working and Scrum methodology; a set of relatively strict and rigid guidelines on how to create value in so-called sprints, making use of universal team roles, meeting formats etc. Research shows that agile organisations have very high organisational health (a

good indicator of long-term performance), with about a 70% chance of being in the top quartile for this metric (Ahlbäck, 2017).

However, there is more to agility than just these ways of working. The methodology is based on a set of principles and beliefs – that agile manifesto mentioned before being the core – , as explained in the text below, which is taken from (Davidse & Holierhoek, 2017). Literature on the agile process, its characteristics, strengths, weaknesses, etc., is abundant, wide-spread and diverse. In summary, agile processes are characterised by:

- Collaborative development (Dingsøyr, Nerur, Balijepally, & Moe, 2012) in self-organising teams of empowered (Denning, 2016) creative individuals (Highsmith, & Cockburn, 2001) that follow generative rules vs. inclusive rules[i] (Highsmith, & Cockburn, 2001) (Denning, 2016);
- A 'lean' mentality, with a view to minimise unnecessary work (Dingsøyr, Nerur, Balijepally, & Moe, 2012) to facilitate fast results (Highsmith, & Cockburn, 2001) as opposed to documentation;
- Customer and/or stakeholder participation, which facilitates feedback and reflection (Highsmith, & Cockburn, 2001) (Dingsøyr, Nerur, Balijepally, & Moe, 2012) (Denning, 2016);
- A focus on handling change as well and as cost-effectively as possible (Highsmith, & Cockburn, 2001) (Dingsøyr, Nerur, Balijepally, & Moe, 2012), by acceptancing that uncertainty is part of the process, so there's no point in trying to control it (Dingsøyr, Nerur, Balijepally, & Moe, 2012), while acknowledging Barry Boehm's life cycle

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i In other words: management gives their employees more freedom to work as they see fit and helps them achieve their goals, as opposed to continuously checking whether they have reached them.
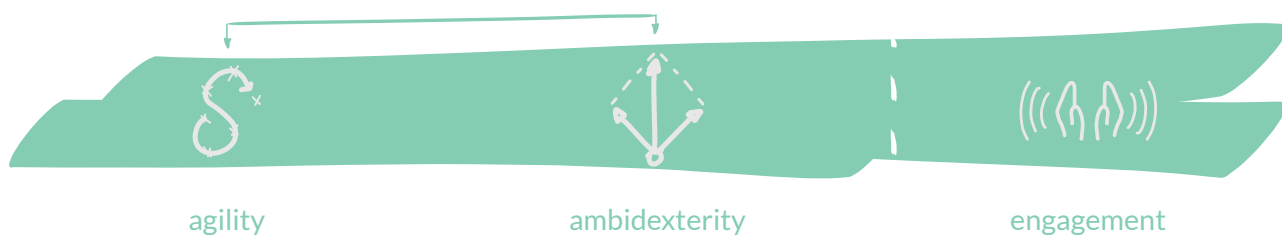
agility ambidexterity engagement

Figure 9 The three elements of progressiveness.

cost differentials theory[ii] (Highsmith, & Cockburn, 2001).

So, as opposed to previously dominant (project) management processes and techniques (like the waterfall method or the Stage-Gate approach), the overall project goal is not to eliminate change early on (Highsmith, & Cockburn, 2001), nor explicitly to make profit (Denning, 2016). Instead, the aim is to respond to change in a fitting manner (Highsmith, & Cockburn, 2001) and add value to and delight the customer (through customer collaboration and by being responsive (Highsmith, & Cockburn, 2001) (Dingsøyr, Nerur, Balijepally, & Moe, 2012)). The implicit notion is that these projects will create profit as a side-product (Denning, 2016) of the value added. This notion is underlined by Ahlbäck et al. (2017), who write that agile organisations 'simultaneously achieve greater customer centricity, faster time to market, higher revenue growth, lower costs, and a more engaged workforce'. As Denning puts it in his 2016 article:

"[…] along with the belief that if the organisation provides the right environment, values, and goals, those doing the work will usually deliver continuous value and innovation for the ultimate users and customers. The enabling mindset is explicitly customer–focused, with profits seen as the result, not the goal." - Denning (2016)

Though these beliefs are explained in the context of singular projects in the text above, they can very well be understood in the context of whole organisations as well. Ahlbäck et al. (2017) stress the need for organisaties to demonstrate agility in the context of complex and

volatile environments. Adapted from their definition and the insights gained throughout this research, the definition for organisational agility in this thesis is:

'Agility is the ability to quickly and adequately reconfigure strategy, structure, processes, people, and technology toward value–creating and value–protecting opportunities in order to maintain or increase performance, while fulfilling the company purpose and/or customer promise.'

Ambidexterity

Agility is an important aspect of becoming a progressive and future-proof organisation. However, a short-term focus, excellent as it may be, is almost never enough to survive – let alone thrive. A balance between the three horizons (Baghai, Coley & White, 1999) is necessary to ensure short-term optimisation efforts can be kept, while long-term innovations are being developed. As Stoimenova & De Lille (2017) wrote:

"a model has to be created that puts in place the decision mechanisms and structures which will manage to balance both sides of the innovation coin – incremental and radical innovation. Failure to do so will result in declining performance and the need to implement risky transformation programs" - Faeste, 2017, via Stoimenova & De Lille

This model, which is gaining more and more support as well, is organisational ambidexterity. Defined by O'Reilly & Tushman (2013) as

'Ambidexterity is the ability to simultaneously pursue both incremental and discontinuous innovation...

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ii The cost of change grows as the project progresses.

Hosting multiple contradictory structures, processes, and cultures within the same firm.'

The concept is centred around the idea that exploitation of current value-delivery propositions and exploration of future value-delivery propositions should both be explored within the organisation. In other words, incremental (step-based) innovations are being explored alongside more radical innovations. This balance can be sequential, structural, contextual or design-led and is difficult to achieve in any case (Stoimenova & De Lille, 2017). O'Reilly and Tushman (2013) underscore the failure of organisations to achieve true ambidexterity:

"Most successful enterprises are adept at refining their current offerings, but they falter when it comes to pioneering radically new products and services."

The two above aspects of progressiveness take place on different organisational levels. The organisation as a whole can be gauged to some degree on their level of either of these aspects. So can different parts of the organisation, or the teams within it. On top of this, in theory, these two abilities strengthen each other to some extent; with increased ambidexterity making agility somewhat easier and vice versa.

Organisational agility and ambidexterity approach the area of new forms of organisational learning, as postulated by Wang & Ahmed (2003) and further detailed by Sessa & London (2015), who describe continuous organisational learning at three levels: the individual, the group and the organisation.

"Once activated, systems can learn adaptively by reacting to a change in the environment; they can learn by generating new knowledge and conditions; and/or they can transform by creating and

applying frame-breaking ideas and bringing about radically new conditions. Individuals, groups, and organisations are nested within each other forming an increasingly complex hierarchy of intertwined systems" – Sessa & London, 2015

The key concept behind agility is the ability to very quickly transform organisational elements through frame-breaking transformations, while ambidexterity is centred around the ability to host both incremental and radical improvements (i.e. learnings). All of these can take place on the three levels detailed by Sessa & London. The difference between the concepts of organisational learning research on organisational learning aims to describe the processes that take place at various levels in order to understand and achieve various organisational processes and goals, while agility and ambidexterity are two distinct and specific goals (that might very well be partially achieved through the correct application of organisational learning theories and practices). Though many insights can probably be taken from the extensive body of research on organisational learning and its included concepts, such as triple-loop learning, knowledge creation through radical changes, creative thinking and organisational sustainability as a result of creative innovation, this research foregoes those due to time pressures – partly because the concept of organisational learning is excessively broad (Wang & Ahmed, 2003).

Engagement

The last aspect takes place on a smaller, more human, level. Organisations as a whole will only be able to thrive through the combined output of their employees. Being able to deal with turbulent environments and focus energy and effort on incremental and radical innovations will only be effective if an organisation's employees put their best foot forward. As explained before, the

demands on organisations have drastically changed. Where agility and ambidexterity help an organisation better deal with the outside demands, inside demands can be met through investments in employee engagement.

In the context of organisations, engagement is essentially a measure for how active people are in their work environment. Kahn (1990) split defined different elements of engagement, when he wrote the first definition for employee engagement as:

"Employee engagement is the simultaneous employment and expression of a person's "preferred self" in task behaviours that promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active full role performances"

According to Kahn, the level of engagement depends on the level of meaningfulness, safety and ability employees have to express themselves in the organisation. On the individual level, engagement may vary over time - Kahn writes that engagement may vary like ebb and flow over the course of a day (1990). As might be expected, engagement also depends on the task(s) at hand (Christian, Garza & Slaughter, 2011).

In many organisations, the overall employee engagement is low. A report by Gallup stated that:

"The global aggregate [...] indicates that just 15% of employees worldwide are engaged in their job. Two-thirds are not engaged, and 18% are actively disengaged." - Gallup, 2017.

Morgan (2017) explains that the low engagement levels are the result of organisations' tendencies to apply short-term fixes only. In stead of implementing long-term focus on the design of the employee experience, organisations tend to occasionally boost morale with short-term fixes. Over time, people see through these otherwise hollow 'improvements', especially as their initial effects wear off.

However, according to research, investing in the employee experience to foster engagement is necessary to ensure happier employees, larger 'talent pipelines' and productivity and profitability. According to Gruber et al. (2015), so-called 'experiential organisations' have four times the average profit and more than double the average revenue as compared to others, while being about 25% smaller (suggesting higher productivity). Research also shows that workplaces with high employee engagement outperform those with lower levels of engagement (de Morree & Ronner, 2019). Besides higher profit and productivity in organisations with high engagement, lower levels of defects, accidents and sick-leave occur, see Figure 10.
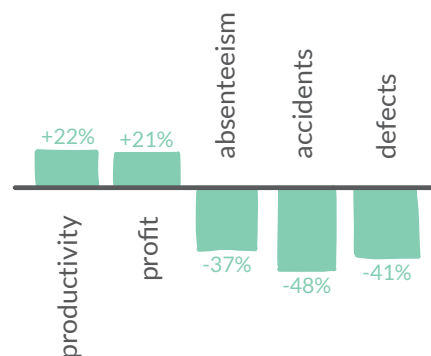
Figure 10 Effects of employee engagement – Gallup, 2017

FIRST RECAP

In this chapter, I have provided a simple and closed definition of organisations. I explained that an organisation can be easily defined and recognised as a system that meets four simple conditions. An organisation is a group of people with a clearly identifiable boundary, working together to achieve a certain (shared) goal or set of goals. I also argued that, in the context of this thesis, the distinction between an organisation and legal or societal terms as a company is not relevant.

In order to understand why organisations currently are not all equipped to be future-proof. I explored the field of organisation design and showed that it has evolved over the years. From organisations as (static) machines (which itself consisted of three distinct waves), to organisations as (dynamic) organisms. Still, these approaches have a number of downsides: they are abstract, conceptual and inanimate in their descriptions, leaving little room for the complex (positive and negative) traits of human behaviour. Moreover, I have shown how organisation design is often more or less about a static blueprint, which fails to take into account changes within and outside of the organisation over time. As such, I provided literature on how the field is decoupled from practice, while facing increasing pressures.

As I argued that these increasing pressures on the organisation are the most pressing reason for them to change, I researched and summarised these pressures. I presented them as a mix of changes in technology, competition and demand (inside-out and outside in) and regulations.

Finally, I explored the direction organisations should be heading and dubbed these types of organisations progressive organisations. They are those organisations that are as ready for the present and future as possible, are those that (aim to) achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity. I provided clear definitions for each of the three concepts.

ROOM FOR NOTES

SEGMENT TWO

THE VALUE OF DESIGN

2.1 Breaking down design.

The circumstances outlined in the previous chapters force organisations to pursue organisational progressiveness, but the question remains: 'how?' This chapter introduces the term 'design' and defines it in the context of this thesis. To do so, both definitions and applications from literature and practice are given. Through a brief (recent) history, it is shown that the design field has been, and still remains, subject to change and expansion. It has increasingly been used to solve more abstract and complex problems and even create complex (sociotechnical) systems.

2.2 Applying design to organisations.

In the previous chapter, I explained what design is, what principles underline the practice of it and how the domain of design has expanded over time. Here, I argue that the evolution described in the previous chapter has made design a suitable option to help organisations become more progressive.

2.1 BREAKING DOWN DESIGN

The circumstances outlined in the previous chapters force organisations to pursue organisational progressiveness, but the question remains: 'how?' This chapter introduces the term 'design' and defines it in the context of this thesis. To do so, both definitions and applications from literature and practice are given. Through a brief (recent) history, it is shown that the design field has been, and still remains, subject to change and expansion. It has increasingly been used to solve more abstract and complex problems and even create complex (sociotechnical) systems.

Introduction to design

In order to grasp the concept of design, let us look at what Tim Brown, the CEO of IDEO (arguably the most well-known design consultancy in the world) states:

"[design is] a human–centred approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" – Brown, 2016.

The process to this 'approach to innovation' is based on a specific way of reasoning and an ever-evolving set of principles. As Dorst explains, the reasoning pattern for design is abduction (Dorst, 2010), see Figure 11. In contrast to the more common induction or deduction, which are patterns of reasoning that explain phenomena that already exist, abduction works to create new value. This way of reasoning is necessitated by the fact that
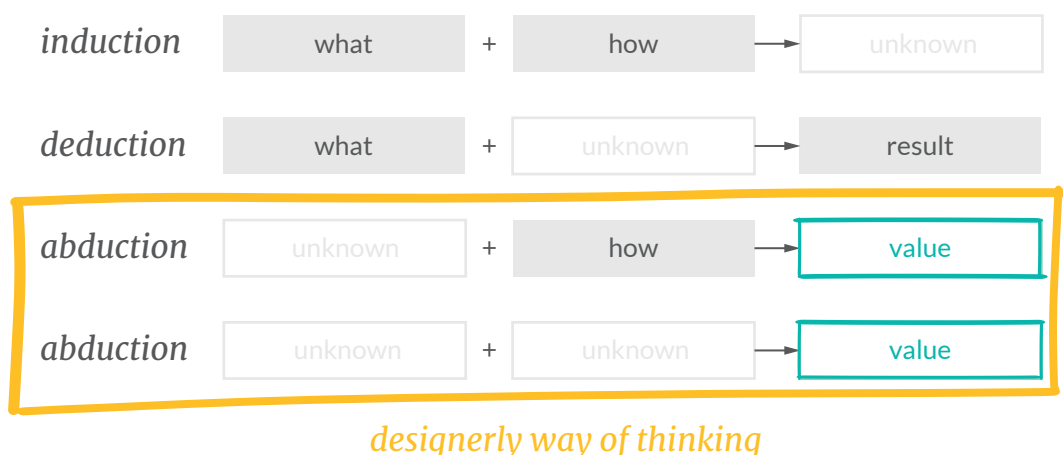
Figure 11 Reasoning patterns according to Dorst (2010).

"Reality is not manifest destiny, but a set of choices inside boundless opportunity. Design is at its core optimistic 'opportunity thinking'."

Ferdi van Heerden

problems to be tackled by design are often wicked[i] and ill-defined[ii].

As an approach to innovation, design can be regarded as a more or less set way of problem-solving, of which there are many interpretations. Two influential ones, however, are the basic design cycle (Roozenburg & Eekels, 1995) and the double diamond model. The basic design cycle, to be found in Appendix A, reflects the abductive reasoning as mentioned above; moving from function to aspired design. It was developed to describe product design, but remains relevant in current domains and paradigms. A second part of the model emphasises the iterative and fluid nature of the process, which remains especially relevant in any context.

The 'Double Diamond' model (Design Council, 2007), see Figure 12, emphasises the diverging and converging phases of the design process through its four sequential steps: discover, define, develop, deliver. This diverging and converging is also mentioned by many others as part of the design process, including Roozenburg & Eekels.
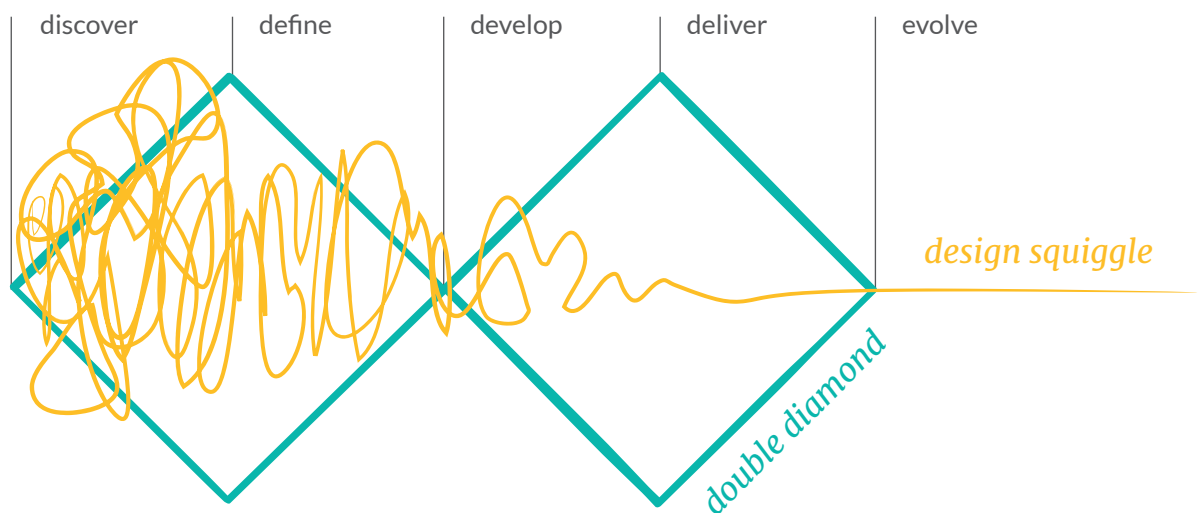
Figure 12 Double Diamond model & Design Squiggle.

i Weber & Khademian (2008) describe different characteristics of wicked problems and conclude these problems are very unstructured. Moreover, they comprise multiple, overlapping, interconnected subsets of problems that cross regular authority and hierarchy levels in an organisation. Finally, they write these problems are relentless, by which they mean they can never be solved completely (or definitively). As a result of these characteristics, Weber and Khademian state wicked problems require a fluid and continuous decision-making process.

ii An ill-defined, or ill-structured problem is a problem that is not well-defined. A well-defined problem has clear boundaries for the initial (definition) state and the goal state (solution). There are criteria in place for testing the solution and the environment is such that there are clear transitions in the goal state as the problem-solving continues. Finally, a well- structured problem can be solved with knowledge that is attributable to one or more problem spaces, is law-abiding and in size as compared to the tools available for the problem-solving. Based on Simon, 1977; Hong, 1998.
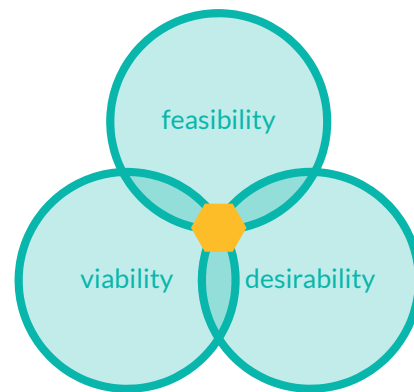
Figure 13 The balance between feasibility, viability and desirability. Design takes place where the circles meet.

The discover-phase, often referred to as the 'fuzzy front end' is used to both understand the situation, translate the problem into (a) solvable challenge(s), and look at many possible options for solutions. Then, the findings of the discover phase are analysed, refined and often discarded in the define stage. In the development stage, the remaining solutions are further developed, tested and iterated upon until the delivery, in which launch and further feedback loops take place. Since the Design Council's publication, many alterations have popped up on blogs, websites and elsewhere. In the figure, the double diamond is shown with an extra evolve-phase, where actual implementation helps redefine the launched product even more. The line projected over the diamond is called the 'Design Squiggle' by Damien Newman (n.d.), and illustrates the messy nature of the repeated diverging and converging (especially in the fuzzy front end).

"The main goal of design as a discipline is to promote wellbeing in people's lives." – Mauricio et al., 2012.

To do so, designers find situations that are in some way disruptive to this wellbeing, identify the underlying problem or opportunity for improvement (the cause of the disruption) and generate solutions for that instance. For many, the focus of design is the human; and design is often called human-centred (Brown, 2016). More recently, however, the balance between human, technology and business has been emphasised, as per Tim Brown's quote at the beginning of this chapter, and as explained by Calabretta, Gemser & Karpen in their book 'Strategic Design' (2016). They speak of balancing desirability, feasibility and viability[iii] (see Figure 13). Design thinking can be viewed as a mind-set (Riverdale + IDEO, 2011), or a set of principles, such as empathy with users, a discipline of prototyping and a tolerance of failure (Kolko, 2015). As described above, the acts of balancing and applying the mind-set or principles is non-linear and iterative.

Defining design

As becomes clear in the summary above, much research has been conducted on the meaning of design, the scope of its field and the various (academic) directions and belief systems. For the purpose of this thesis, however, a short description and a set of design[iv] principles will suffice.

Design has come to a point where it is a combined state of mind and the application of a more or less fixed[v] set of tools, steps and processes to solve (wicked and ill-defined) problems. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced.

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iii It is interesting to note that this balance is currently being questioned – especially by design students. My research, for example, unearthed the discontent of some on the absence of both sustainability and organisational achievability (Waring, 2019).

iv Please note that, while I continuously use the term design, some might understand my definition of the concept as strategic design. In the context of this thesis, design and strategic design are the same thing. In a similar way, (strategic) design and design thinking are approached as the same concepts.

v Though some of the tools applied by designers (such as brainstorming or HMW) are established and very constant, new tools and practices continue to be developed and used.

creative & analytical   deep understanding   dealing with uncertainty

Figure 14 Overview of the main principle categories of design.

Design principles

As the definition makes apparent, design is not a one-size-fits-all step-by-step approach to problem solving – the state of mind and set of tools and steps allow for the process to be structured and tailored to the situation. There are a number of design principles that, together, make up for the modus operandi of most designers - the tools, steps and processes mentioned in the definition (see Figure 14). Together, these principles do not so much explain what design is, or what it applies to, but explain how designers approach their problem-solving and what their underlying beliefs are. The principles are based on a mix of literature (namely: Schön, 1983; Cross, Dorst & Christiaans, 1996; Dorst, 2010; Mauricio et al., 2012; Calabretta, 2015; Brown, 2016; De Lille, 2018) and on my own experience, both as a designer and as a design student, having followed both a Bachelor's and a Master's degree worth of education on design at the TU Delft.

Balancing creative & analytical thinking

Design is mostly an integrative mix of creative and analytical thinking, since it often involves quickly zooming in and out of the context, switching from analysis to action and from abstract to concrete. Data (in many shapes and sizes) is analysed and possibly transformed into information or knowledge and then used as inspiration for the creation of ideas (Stappers, 2016 - after Ackoff). As Dorst & Cross explained (2001), in building on the model of co-evolution of problem and solution as presented by Poon & Maher (1996), every design project shows signs of creativity, be it in the form of a sudden creative leap (either recognised as such immediately or in retrospect), or through the evolution of a somewhat creative solution. Designing means going through constant 'assignment manipulation' (that, in turn, leads to a solution). This moving back and forth between problem and solution is dubbed co-evolution

of problem-solution. The theory is based on a theory by Schön (1983), who described the designer as a reflective practitioner – someone who deems problem setting as important as problem solving and constantly listens to the 'situation's back-talk'. He calls this process reflection-in-action. In essence, when solving problems, designers constantly seem to check both their assumptions and the information available. They go through this information with default assumptions (and existing knowledge and insights), until reframing of the problem occurs when they find a surprise. This leads to continuous simultaneous development of the problem and solution space – by exchanging information between the two and thus linking them – i.e. forming bridges, an iterative process. For this process to work, it is important to always keep an open attitude (though a slight human bias will probably be unavoidable) towards all aspects of problem and solution spaces; the inspiration, idea or solution may come from unexpected places. This is illustrated by the following quote from someone working with designers (Geurts et al., 2013) on designers:

"What struck me is their open minds. [...] they listen and absorb [...] without judgment or qualification." - Van Os (2014)

A deep understanding of context

One of the main principles of design is to solve the (framed) problem at hand by getting a deep understanding of the context: the people, processes, environments, business and societal needs, etc. that interact with and form the problem (Brown, 2016). This oftentimes means that designers engage (or even co-create) with multiple stakeholders (who all view the problem in a different way, as they tend to mostly see it from their own perspective) (Stickdorn & Schneider, 2010). A key principle in engaging, and managing,

all stakeholders is good communication: making the intangible insightful, tangible and experimental for those involved (Coughlan et al., 2007). To do so, designers try to simplify complexity without losing relevance. This makes it easier for everyone to get a handle on the problem, or the solution under construction. Design helps connect different stakeholders, both outside the team, as within the team, which is often interdisciplinary. This is illustrated by a quote from Lennart Kaland (2019), a TU Delft graduate:

"I feel a need for insiders with really deep & tacit knowledge and people that think in innovative ways. I, as a designer, can translate between the two and come to new opportunities." – Kaland (2019)

As explained before, design (and especially strategic design (Calabretta, Gemser & Karpen, 2016)) aims to balance feasibility from a technical perspective, viability from a business perspective & desirability from the perspective of the humans involved in the system when trying to understand and solve the problem for all stakeholders involved. In order to get to the core insights needed to understand the context, designers often apply qualitative (research) techniques, such as context mapping, to reach tacit levels of knowledge (Sanders & Stappers, 2012).

Dealing with uncertainty

Since designers tackle wicked and ill-defined problems, which come with a host of uncertainties, they must be very adept at dealing with uncertainty and managing complexity (Dorst, 2015). The models explained earlier in this chapter help explain that design is inherently iterative. The co-evolution of problem & solution, as explained above, exemplifies the iterative workings of the process, the fact that design is non-linear and illustrates the way design is capable of dealing with

uncertainty through (re)framing. The design squiggle only strengthens the image of a meandering process. The principle is to explore various options and directions - to work within large problem and solution space, and try different things. If something does not actually solve the problem, the focus shifts to a different direction. However, time and effort spent focusing on something that does not work out in the end is not lost, since valuable lessons have been learned. Like with agile methodology, the principle lies in failing fast, early and often (Kolko, 2015; Davidse, 2016). In this way, design deals with uncertainty by quickly moving on from any failures and switching between divergent (broadening) and convergent (focusing) thinking. As design occurs in dynamic contexts, the testing of assumptions and hypotheses to validate them, can also lead to different and novel insights.

When applying design, it is important to trust the process will foster results. Even if it is not clear where & how the problem will be solved. This is inherent to the process of abductive reasoning - thinking about what might be (Dunne & Martin, 2006; Dorst, 2010). In many cases, available data will be incomplete, of varied quality, the result of mixed sources, and possibly partially contradicting due to the many perspectives included. On top of this the end goal will be unclear and the problem complex and overwhelming, but this should not prevent a designer from pushing through. A trust in the process as well as a sort of 'gut feeling' comes with time and experience, and is vital. This means that there is a fundamental difference between business and design here (Martin, 2007); design is about creating something new, based on increasing validity. Business is more often about building on the past, based on reliability. In design, one does not know where one is going to end up. Therefore, a key focus is to constantly find and use new insights to make sure the solution at hand is as close to the right thing as possible and subsequently trusting it will work out.
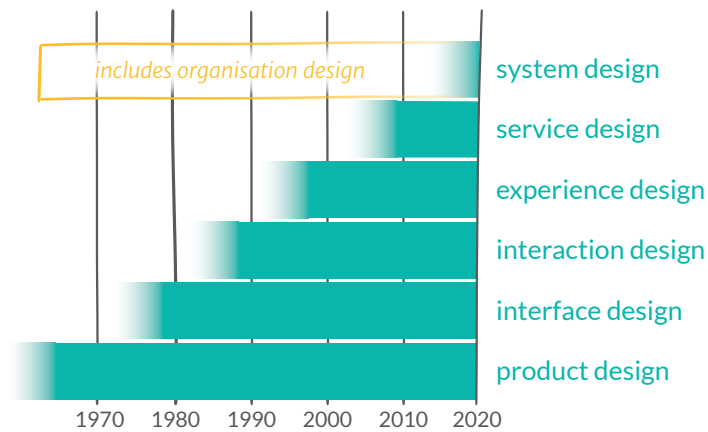
Figure 15 Timeline of the evolution of the design field.

The expanding field of design

With design explained as basically the process of creatively solving ill-defined problems, it is important to define the domain(s) in which these problems occur.

Over the past 25 years or so, the field of design has seen rapid change. On the one hand, the scope of the field has become larger and larger (Stappers, 2016). Design has increasingly been used to solve more abstract and complex problems and even the design of complex (socio-technical) systems (Norman & Stappers, 2015). In doing so, design has gone beyond its initial workings and philosophy. From roots in craft-like product creation, through the industrialised mass-manufacturing of products, design has moved past that. The past decades, design has come to encompass the fields of interfaces, interactions and experiences (Stappers, 2016), and after that even services and whole systems and organisations (Buchanan, 2001; Norman & Stappers, 2015). Figure 15 approximates the timeline of this evolution (based on Stappers, 2016). So, design has long been a combined state of mind and a more or less fixed set of tools, steps and processes to solve wicked and ill-defined problems, but the type and scope of these problems have evolved over the years. And design has long been an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced. Yet, again, the type and scope of problems that were subjected to this process evolved over the years.

At the same time, the knowledge and recognition of the field and its importance within companies has seen a steady increase – probably due to increased appreciation for design's positive effect on a company's bottom line. According to the 'dmi: Design Value Index', design-oriented companies systematically outperform S&P 500 companies (Rae, 2016). These developments have very likely strengthened one-another.

Strategic designers are constantly looking for a new field to apply design to, within this ever-growing scope of our field (Stappers, 2016). In line with Buchanan (2001), the discipline is moving towards the third and fourth orders of design, where the focus is on the design of interactions and on complete (socio-technical) systems & environments (spaces in which interactions take place) (Norman & Stappers, 2015). Within this fourth and last domain lies the design of organisations. Calabretta, Gemser & Karpten (2016) even write that for strategic designers all problem-solving lies on a strategic level nowadays. This logically leads to using a designerly way of working at a company (or bringing it there), not only to develop the output, such as products or services (purpose-driven & experience-driven innovation (Valkenburg, Sluijs, & Kleinsmann, 2016)) or their vision for the future (vision-driven innovation), but also their internal organisation and way of working (combining value-driven, experience-driven and vision-driven innovation).

Though a design orientation often faces some compatibility issues within many companies (Martin, 2007), circumstances have companies looking for new ways to stay ahead of their competition, which opens up the opportunity for a designerly approach. This trend is underlined and strengthened by the outcomes of the aforementioned 'dmi: Design Value Index'.

2.2 APPLYING DESIGN TO ORGANISATIONS

In the previous chapter, I explained what design is, what principles underline the practice of it and how the domain of design has expanded over time. Here, I argue that the evolution described in the previous chapter has made design a suitable option to help organisations become more progressive.

In previous chapters, it has been established that:
- Organisations need to become more progressive to survive and thrive;
- Organisation design has become a stagnant field with severe shortcomings;
- Our current circumstances only increase the pressure on organisation design;
- Design is a suitable approach to solving wicked and ill-defined problems and has successfully grown over several domains in the past decades.

This all leads to the singular conclusion that the term 'design' in organisation design should be given renewed focus. By applying the concept of design to that of organisations, a more or less clean slate can be provided to approach this field in a different way. However, an important element in the context of this expanding field has not yet been explained: the use of prototypes.

As will be explained in more detail later on, in today's world, change is more and more about active inclusion of all organisational echelons and the entire workforce. Top-down change stories are a relic from the past. With today's technologies, organisation-wide communication is possible, transforming the act of communicating into one of contributing to the change itself. All agents in an organisation now turn into participants, not recipients of change. This fosters iteration and continuous learning. In other words, the change is subject to change itself. This makes it very compatible with the idea of prototyping for change.

Prototypes

In creating organisational progressiveness, the empathy, tolerance for failure and iteration explained to be part of design will play an important role. These principles come together in prototyping. Coughlan et al. (2007) mention three reasons for why prototyping can help facilitate behavioural change in the organisation: building to think, learning faster by learning early (and often) and giving permission to explore new behaviours. When aiming to create organisational progressiveness, a heavy emphasis on prototyping can help quickly eliminate uncertainty and ambiguity.

"[...] if we acknowledge that (a) failure produces powerful learning for an organisation and (b) seldom is the first solution to a problem the best one, then it stands that one can help an organisation reduce risk by lowering the cost of learning." - Coughlan et al., 2007

Prototypes (see Figure 16 to the right for a few examples) are essential when using an iterative process, in that they are easily made and instantly tangible. In iterative processes, failure is inevitable (and a positive trait, as it generates new learnings) and prototypes enable resource-limited, or cheap failures.

"What's the best way to make progress toward your goal? In our experience, it's to build a prototype, an early working model that has become a key tool of design thinkers."
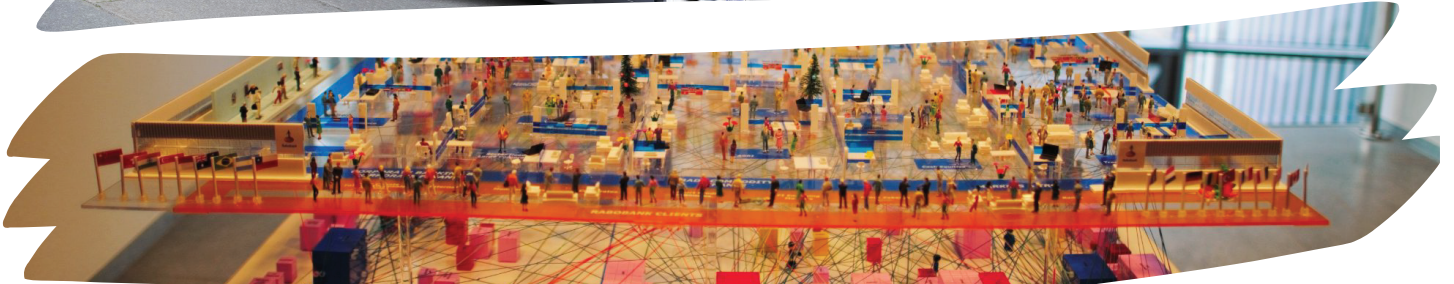
Tom and David Kelley, IDEO

Figure 16 Several prototypes: Volvo Concept Coupe, Rabobank IT Data Structure, KLM Platform Operations Model, Trump's border wall.

"Prototyping is core to how designers do their work. It involves moving from the world of abstract ideas, analysis, theories, plans, and specifications to the world of concrete, tangible, and experiential things."

Coughlan et al.

The word prototype is probably a familiar word to many. According tot the Merriam-Webster dictionary[i], the word comes from the ancient Greek 'proto', meaning first of its kind and 'typos': form or impression. Though many confuse it with archetype[ii], meaning the original model of which all things of the same type are representations, or the perfect example, a prototype more often refers to an early version of something.

The act of prototyping is a familiar one in many academic and business fields. In many design and engineering fields, prototypes are used in various forms and for various purposes (Buchenau, 2000; Brandt. 2006; Lim et al., 2008). So even though anyone will have a basic understanding of the meaning of prototype, the detailed aspects will probably vary from person to person.

Definition of a prototype

For the purpose of this thesis, a solid definition for a prototype must be found. Based on research into the different views on and definitions of a prototype (Buchenau, 2000; Brandt, 2007; Lim et al., 2008; Verba, 2008; Kelley & Kelley, 2013; Cao, 2015; Jensen, Elverum & Steinert, 2017) this definition will be:

"A prototype is an incomplete version of (part of) a product, service, process or system, produced during its development."

Benefits to prototyping

There are many benefits to, and thus reasons for, prototyping – as highlighted in Figure 17. These may apply to various kinds of situations, so not just in the case of working towards progressive organisations. They just as well apply to, for example, prototyping in an app development process or to the internal innovation process of an organisation. For the full overview of benefits to and pit-falls of prototypes, please see Appendix B.

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i "Prototype | Definition" https://www.merriam-webster.com/dictionary/prototype. Accessed 15 Feb. 2018.

ii "Archetype | Definition" https://www.merriam-webster.com/dictionary/archetype Accessed 15 Feb. 2018.

communicating & collaborating

confronting the unknown

setting priorities & forcing decisions

learning fast through failing in action

selling your idea

acting as a living checklist

implementing immediately & iteratively

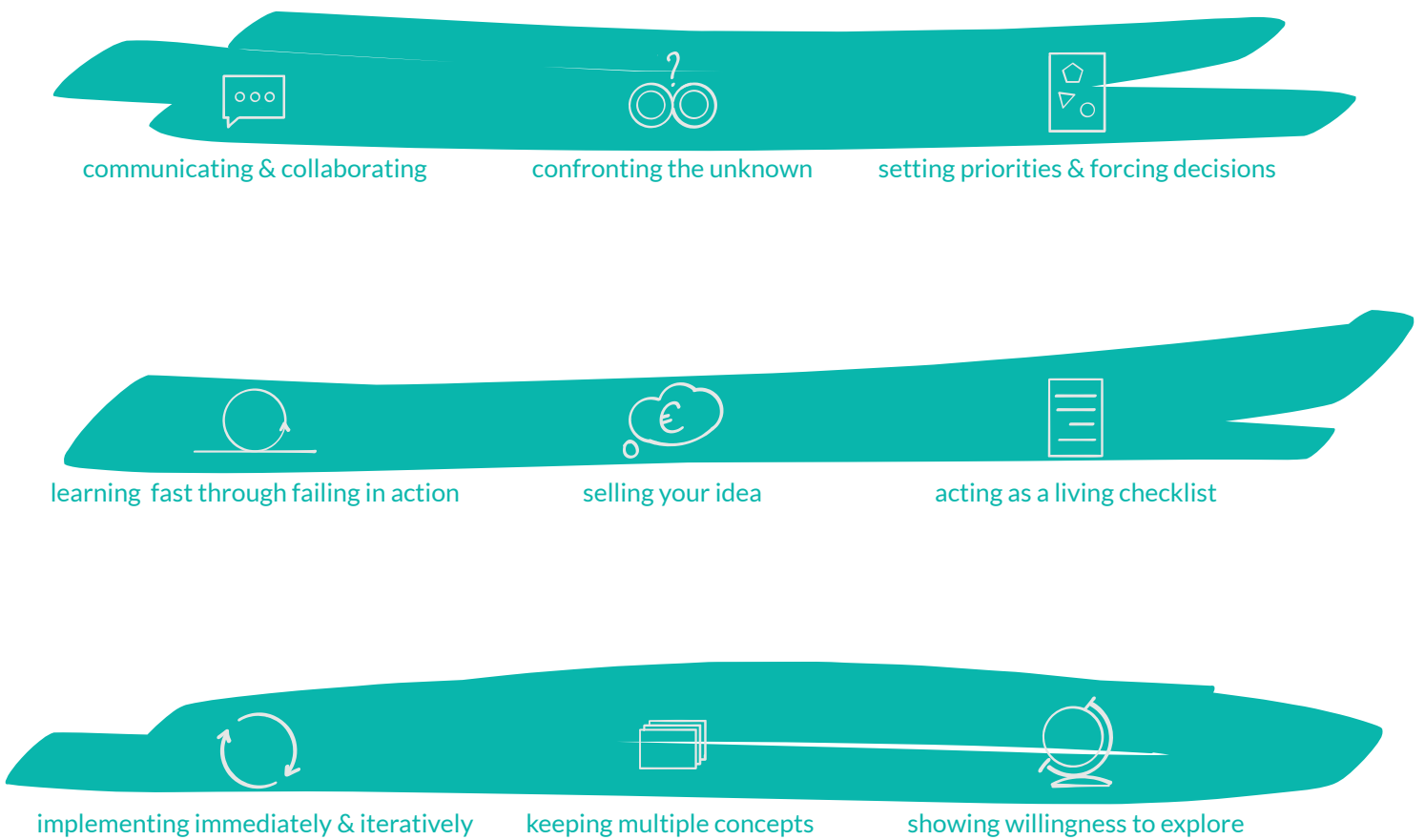keeping multiple concepts

showing willingness to explore

Figure 17 Overview of the benefits to prototyping.

SECOND RECAP

In this second chapter, I explored the concept of design through a review of definitions and applications from literature and practice. I provided a definition for design, being: 'Design has come to a point where it is a combined state of mind and the application of a more or less fixed set of tools, steps and processes to solve (wicked and ill-defined) problems. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced.' I also discussed three key design principles: balancing creative and analytical thinking, getting a deep understanding of the context and dealing with uncertainty.

Balancing creative and analytical thinking: As designers, we are able to quickly switch from analysis to action - from thinking in abstract terms to thinking in concrete terms. We frame and reframe a problem over and over - probably making it larger than others would do. Therefore, we reason through a co-evolution of problem and solution: as we think of possible solutions, our understanding of the problem might change. We have an open attitude towards all aspects of possible problem and solution spaces.

Getting a deep understanding of the context: As designers, we try to engage multiple stakeholders throughout the process. Often, we work in interdisciplinary teams, where the designer is sort of a connecting element. To achieve this, we try to make intangible aspects easier to handle, by making them insightful, tangible and experiential. Part of this practice is to always balance feasibility, viability and desirability. We develop an empathic view for all situations. Being human-centred might be the start, but all three elements are as important.

Dealing with uncertainty: As designers, we try to deal with uncertainty by working iteratively and in a non-linear fashion. The key is to learn quickly and to alternate between divergent and convergent thinking. It's important we trust the process and our gut-feeling to deal with the uncertainty and with the fact we always work with incomplete data (you never know everything).

Afterwards, I pictured a brief history of the field and showed that the design field has been, and still remains, subject to change and expansion. It has increasingly been used to solve more abstract and complex problems and even create complex (sociotechnical) systems. I then argued that the field's evolution has made design a suitable option to help organisations become more progressive. I also elaborated on prototypes, their meaning and their advantages as key part of the iterations that characterise design practice.

ROOM FOR NOTES

SEGMENT THREE

ORGANISATIONAL BLOCKS

3.1 Organisational blocks.

Now we understand what an organisation is, how design usually works and which characteristics of design might be suitable in the search for a new approach to organisation design, let's look a step further. In this chapter, I explain my new view on organisations as a set of blocks from a human perspective. I bring together my human-centred view as a designer with research on success factors in progressive organisations. The results are presented here one by one.

3.2 Designing or changing?

In the previous chapters, I described the build-up of an organisation from the human perspective through a set of blocks. The idea is that these blocks are to be designed and iterated upon. However, design often happens in the context of existing remnants. Outside of theory, it is nigh impossible to build a large organisation from scratch. Here, we will therefore introduce the concept of change management, and discuss common pitfalls.

3.1 ORGANISATIONAL BLOCKS

Now we understand what an organisation is, how design usually works and which characteristics of design might be suitable in the search for a new approach to organisation design, let's look a step further. In this chapter, I explain my new view on organisations as a set of blocks from a human perspective. I bring together my human-centred view as a designer with research on success factors in progressive organisations. The results are presented here one by one.

A new view on organisational elements and their connections is created based on literature on progressive organisations, as well as the insights into design and prototyping as mentioned above. The view is backed up by extensive literature research, as well as observations of a change effort at a Dutch corporate.

The goal of this approach is to understand the organisation in a different way, to make it possible to build a new organisation together with the employees in an iterative manner. The new view, consisting of a set of 'organisational blocks' (see Figure 18) differs greatly from other organisational theories (like Puranam's waves as discussed earlier) that define organisation through abstract top-down concepts as structures, hierarchies and strategies, because it explores the organisation from a different perspective. In this case, the various interconnected elements that make up an organisation are defined from the perspective of the employee - the human. This approach does not only make sense from a designer's point of view, but can also be understood through theory on complex systems. Organisations can be viewed as complex systems (Bar Yam, 1997). They usually exist of multiple interconnected and interwoven

elements/agents. Furthermore, they certainly display emergent behaviour[i], which is a key element of complex systems (Bar Yam, 1997; Cilliers, 1998). As a result, one must conclude that they cannot be fully understood or defined (Cilliers, 1998). However, looking at them from a different perspective, will enable a different understanding, as according to Cilliers (1998) our understanding of complexity varies according to the distance to the system - even when the complexity itself does not.

"Because complexity results from the interaction between the components of a system, complexity is manifested at the level of the system itself. There is neither something at a level below (a source), nor at a level above (a meta–description), capable of capturing the essence of complexity" – Cilliers, 1998

"Despite the great complexity and variety of systems, universal laws and phenomena are essential to our inquiry and to our understanding. The idea that all matter is formed out of the same building blocks is one of the original concepts of science." – Bar Yam, 1997

When taking both these quotes into account, while accepting that human beings are the building blocks of organisations, the rational and reasonable conclusion is that a human perspective might very well lead to a new understanding of organisations as systems.

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i "The idea of emergent complexity is that the behaviours of many simple parts interact in such a way that the behaviour of the whole is complex." - Bar Yam (1997). In other words, emergence results in the inability to predict the outcome of a systems of interlinked simple parts, because inertial connections and effects cannot be fully understood.

Figure 18 Overview of organisational blocks.

As a result of our understanding of design, an emphasis is put on prototypes and iteration within these elements and across the process. As per Coughlan, Suri and Calanes (2007), there are three reasons why this can help facilitate behavioural change in the organisation: building to think, learning faster by learning early (and often) and giving permission to explore new behaviours.

Raison d'être

First and foremost, the organisation needs a manifest (Schein, 2004); a shared purpose and direction that guides the organisation as a whole, as well as the different teams within (Aghina, 2017). The purpose should describe a line on the horizon for both these levels. A line, not a dot, since the present situation can never precisely predict where one will end up in the future. The name of this can greatly vary, but North Star (Aghina, 2017), or Raison d'Être are both fitting. This purpose is an organisational level construct, which should be reflected (to a varied degree) at the human level. In other words, the organisation's employees should, at the very least, agree with the purpose, if not firmly believe in both the purpose and its underlying values and drivers.

Research into progressive and agile companies (Minnaar & de Morree, 2017) shows that a focus on purpose and values is more effective than a focus on profits. When you follow a clear purpose, profit will follow. The organisation and its purpose should be driver-led, based on shared values. This way, changes in e.g. processes, technology, people will never fundamentally alter the core of the company. A purpose enables agility; if done right, many of the changes the organisation undergoes are to better reach this purpose. At the same time, by being driver-led and having a strong focus on purpose a company can ensure it remains essentially the same over time, even when processes, people and technology

change. Also, it provides employees with a true meaning in their job and a shared sense of purpose they can work towards together. A good purpose should help people feel personally and emotionally invested (Aghina, 2017) in the project and their job. This in turn only increases productivity (Morgan, 2017). Moreover, research shows that organisations with a strong purpose are significantly better at turning around underperforming businesses than those without (Fæste, Reeves & Whitaker, 2019).

Probably one of the most famous examples of an organisation that has built itself around a common purpose is Patagonia. Though the company is much older, in 2012 they defined their purpose and mission statement as:

"Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis."

(The Power of Purpose: How Patagonia Walks the Talk, 2016). With the recent political changes in the US and the ever-increasing human impact on our planet, the company even made this statement more extreme in 2018 by stating it as:

"Patagonia is in business to save our home planet."
- Beer, 2018-1

In the case of Patagonia, the actual formulation of the sentence is not even of great importance, as the authenticity of the belief behind it and the willingness to work towards it has not changed for employees. Every action the organisation and all its employees take, is taken with this purpose in mind. No matter the job description or actual tasks, be it the development of clothing or working in HR, the ultimate purpose of the company is kept in mind. As an example, in case of a job

Figure 19 Environments are both physical and digital.

opening, someone in HR will 'all things being equal, hire the person who's committed to saving the planet no matter what the job is,' (Beer, 2018-1).

Patagonia illustrates that the drivers and values, though shared and in place, need not be expressed in the one sentence that is publicly broadcast. The importance is the authenticity behind it. The organisation also provides a great example of actually acting authentically and making decisions based on their purpose, as they cut their most profitable line of clothing in the 90s, when they found out it was also their most polluting. The last few years their active stance against US politics (through a campaign to 'vote for the planet') and wasteful commerce (by donating all Black Friday profit to grassroots environmental groups) has only increased their profits - which was never even their goal to begin with (Beer, 2018-2).

Environments

In order to motivate and facilitate your employees, create inspiring and open[ii] physical and digital environments (Aghina et al., 2017; Morgan, 2017) for the organisation's staff to work in (Gruber et al., 2015), see Figure 19. The environment should suit the company culture and (different) ways of working, as well as facilitate the newly developed groundings, or (in)formal positions and relationships of the employees towards each other. As a result, the characteristics of the environment probably vary per organisation (Stapel, 2019). Not every employee will have the same needs and wishes for their physical environment (Stapel, 2019), so it's possible to experiment with and incorporate different layouts and floor plans (Morgan, 2017). When combined with other elements, as discussed below, the environment also plays a role in hand-offs

of ideas and tasks (Mahadevan et al., 2017) between colleagues, which enables them to better cooperate in value creation. If done right, "these environments offer opportunities to foster transparency, communication, collaboration, and serendipitous encounters between teams and units across the organisation." (Aghina et al., 2017). Special care should be given to the design of inspiring and open workspaces, as badly copied open offices might work counter-productively (Vox, 2017). Notably, according to Sanders & Stappers (2012), the environment in which actions take place can have great impact on an individual's creativity. A choice of environment, in particular fosters creativity.

The digital environment should enable employees in their daily tasks. As a result of an open culture, these apps and services should provide them with (real-time) transparency and data (Minnaar & de Morree, 2017), in order to help with distributed decision making (Kniberg, 2014-1). As a result of various types of regulations (such as regular (inter)national laws, or certification-specific policies), not all information will be freely available throughout the organisation (Stapel, 2019). At the same time, this should not deter anyone to make information available as freely as possible, given the organisational context. In current times, these digital solutions should be designed to be on par with customer-centred apps and services (Myerson & Ross, 2013 cited by Gruber et al., 2015), so their use facilitates, but does not distract from or complicate the task at hand.

The establishment of inspiring and open physical environment is a widespread phenomenon that, arguably, has been going on for more than a century (Vox, 2017). The concept remains challenging. Some

ii Note that this doesn't mean just having open-plan offices – these don't necessarily always work (Vox, 2017).

examples of companies that have pursued such efforts are ING Netherlands, that completely overhauled their head office as part of a large-scale organisational change programme. The new offices include more open workspaces, glass walls, multi-purpose meeting rooms with yoga lessons in the morning and the addition of multiple stairs to more directly connect floors to one another (van Buuren et al., 2017).

Having an inspiring physical environment is about more than just the way desks are organised, as is illustrate by Patagonia, where excellent free child care is provided on-site to all employees. This results in parents being able to visit their children more, but also explains the fact that all women return to the organisation after maternity leave ("The Power of Purpose: How Patagonia Walks the Talk", 2016). The perk was developed out of necessity (as many of the earliest employees were young parents) and not as a perk. The need for authenticity and planning became even more apparent with the news that Apple's $5B Apple Park campus was met with great criticism from employees over the huge open work spaces (Sabina Aouf, 2017).

When it comes to digital environments, Netflix claims to make it possible for all employees to view and comment on the vast majority of all internal documents ("Netflix Culture", n.d.). Buurtzorg has a somewhat similar approach in the sense that they host an internal platform where all nurses that work for the organisation have the ability to ask each other questions on rare or difficult treatments. The information is open to everyone and any employee of the organisation can respond or search for earlier queries. This platform is also used to share key insights (such as percentage of time spent with clients) or have a dialogue with the organisation's founder ("Buurtzorg's Healthcare Revolution: 14,000 Employees, 0 Managers, Sky-high Engagement", 2017).

Spotify has underlined their approach to product development (summarised in the mantra 'think it, build it, ship it, tweak it') with the correct internal environment. The organisation works with small & frequent releases - called 'release trains' - that 'depart' every two weeks and are unstoppable. The digital tools enable all (new) features to be decoupled from one another, which enables non-final features to still be released, but be toggled invisible to the public. This approach allows for rapid integration and for early detection of bugs (Kniberg, 2014-1; Kniberg, 2014-2).

Culture

Design, hire for (Stapel, 2019) and define an organisational culture (see Figure 20) which, like the grounding of employees, is subject to constant change. The organisational culture is the product of formal and informal organisational elements and helps all employees act in similar ways and deal with uncertain situations.

"Culture serves as a sense-making mechanism that guides and shapes the values, behaviours and attitudes of employees (O'Reilly and Chatman, 1996), and it is through values that behaviourflowsandisguided (Simon,1976). An organisation's culture imposes 'coherent, order, and meaning' and enables the institutionalisation of an appropriate sense- making structure to facilitate interpretation of unfamiliarevents (Weick,1985, p.384)." - Wang & Ahmed, 2003

Within this concept of culture, common practices stem from the formal and informal elements. They can help employees forge new relationships or build on existing ones (see grounding, below). More or less standardised ways of approaching things within the organisation,

Figure 20 The culture contains formal and informal elements.

like 'the use of common language, processes, meeting formats, social-networking or digital technologies' (Aghina et al., 2017) enable people both in simply 'doing their job' and creating organisational value as well as in their effort towards building their own informal networks. Such common practices, as well as an understanding of the organisation as a whole, are greatly influenced by staffing procedures (Stapel, 2019) and can, for example, be part of an on boarding experience (Mahadevan et al., 2017).

Aim for an open culture, where constant communication and collaboration take place in various (in)formal ways, by engaging in radical transparency (Aghina et al., 2017) and enabling easy access to as much information as possible to as many as possible. Through the earlier discussed open digital environment, distributed decision making should be attainable (Kniberg, 2014-1) and be a formal part of the culture[iii]. This, in turn, leads to freedom and trust (Mahadevan et al., 2017) for employees, which are highly autonomous human beings (Minnaar & de Morree, 2017). Freedom and autonomy come with increased personal responsibility, which is both a blessing and a burden, but usually leads to increased job satisfaction and self worth (Mahadevan et al., 2017; Minnaar & de Morree, 2017). Ideally, this enables increased organisational performance through higher levels of engagement (Morgan, 2017). Note that not all employees will thrive in the context of increased freedom, as some may find freedom frightening and even restrictive in the abundance of choice (Stapel, 2019) but that, given the aim for 'winning' progressive organisations, not all types of people will (be able to) feel at home.

Constant communication, together with a driver-led organisation enables employees and teams to engage in aligned autonomy, as per Kniberg, 2014-1. Freedom and autonomy should not cause chaos, as everyone is ultimately responsible for their own performance. Through shared drivers and other common elements, organisations can achieve homogene diversity, so that the organisational culture is more or less the same, even across (geographical) boundaries, where some level of divergence might very well take place over time to create 'islands' (Stapel, 2019).

As a result of the increased autonomy, management should be supportive (Minnaar & de Morree, 2017) and hands-on (Aghina et al., 2017), and mainly work towards clearing impediments.This communication, as well as the shared purpose, the access to information and more, should lead to a cohesive community (Aghina et al., 2017) and thus help to eliminate the silos of old.

The culture only holds if employees agree with and act according to the culture and the entire organisation supports it in formal and informal ways. Informal and formal cultural elements can build on and strengthen each other. The example of Spotify makes this clear; their informal culture of appreciating mistakes as opportunities for learning is underpinned by a set of formal agreements on how to make the most out of these mistakes. Experimentation and adaptation (i.e. iteration) are a key for the organisation (Aghina et al., 2017). For any organisation that is part of a change effort, or works iteratively, it is imperative the employees feel the psychological support to fail (Bylund, 2019). At Spotify, they talk of a fail-friendly environment,

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iii Please note that a misalignment between blocks will probably cause friction. For example, an organisation with open culture that strives for easy access to all information, but equipped with a failing digital environment, will frustrate employees (Stapel, 2019).

Figure 21 Employees' groundings describe both their positions towards and relationships between each other.

where failure is key to learning. Their approach to this is to minimise the risk of failures ('creating limited blast radius'). To (formally) prove their commitment to this culture, the organisation organises regular town hall meetings where anyone (including the founders and top management) can take the stage to discuss their slip-ups and subsequent learnings. I believe this mind-set should apply both towards the outside of the company (the products and services delivered by the organisation[iv], as well as their competitors) and the inside (the culture, purpose, grounding etc.). Continuous learning should be a part of the organisation (Aghina et al., 2017).

Another example is Netflix, a company that formally and actively avoids rules (Bariso, 2019). The organisation underlines a culture that seeks to provide employees with as much freedom and autonomy as possible with a lack of rules to empower them. Netflix's entire expense policy is: "Act in Netflix's best interest." Employees are expected to make their own decisions and spend the money like they would their own (Bariso, 2019; "Netflix Culture", n.d.). This also means that most of the documents, no matter their content, are shared widely amongst all employees. This helps them with any task at hand or in finding new tasks (see action agenda later on), and allows them to comment on decisions made by others.

There are several ways to create a facilitative management culture. Firstly, it is important to emphasise the freedom; to make it explicit (Stapel, 2019). Moreover, in order to be supportive and facilitating, leaders should enable employees to think first, follow their own reasoning, and make their own

decisions where possible, even if those do not align with their preferred approach. This enables them to take responsibility. Only when the expected outcomes are detrimental to the organisation, should someone step in (Stapel, 2019). Also, more democratic ways of decision making, where every employee has as much voting power as anyone else, including vetos, can create an open organisational culture that almost completely foregoes the concept of management (Bylund, 2019).

Finally, transparent and democratic performance-related concepts can help establish an open and trusting culture. At Comprend, a Swedish Digital Corporate Communications organisation, all personal bonuses are no longer coupled to employee performance, as the organisation both expects and believes all employees to work as best they can (Bylund, 2019).

Grounding

Co-create a place for everyone to work together (see Figure 21); define formal positions and relationships for the employees towards each other, while creating space for informal relations to gradually and organically grow over time. All of these positions and relations, both formal and informal, might change over time as the organisation adapts, but they provide some grounding (in Dutch: houvast) to the employees while they stand. As Kniberg (2014-1) put it:

"Community is more important than structure."

Just as the creation of supportive management, this too is a good approach to ridding an organisation from (organisational) silos. The compliance to the level of

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iv Note that it would still be unacceptable for the company to deliver / sell faulty products and services to its clients, since this would probably have major consequences. Such an experiment would constitute a large blast radius.

commitment within the organisation for a dynamic grounding will vary (Stapel, 2019), but still helps with moving forward. By using less formal structures, job descriptions and strict territories, anyone can find their (in)formal place (i.e. grounding) within the organisation[v]. This enables constant change, i.e. agility. The decrease in hierarchy and structure thus is more than merely a requirement for increasing agility of the organisation, it also acts as a catalyser for change. Of course, the organisation should provide everyone with a formal place, but at the same time leave room for everyone to find informal relationships and links as well.

From the organisation's perspective, these groundings should look like constantly evolving networks of teams (or 'fit-for-purpose performance cells' (Aghina et al., 2017)), as opposed to set hierarchies (Minnaar & de Morree, 2017). Through the North Star, these teams can be loosely coupled, but tightly aligned (Kniberg, 2014-1), since they always have a clear direction or goal on a meta-level. Given the opportunity, role mobility (Aghina et al., 2017) should enable employees to constantly work on relevant topics for achieving the company's goal and maintaining or expanding its competitive advantage (see action agenda). This role mobility and constantly evolving dynamic also allows for teams to develop skills they are currently lacking, by making use of one of their colleagues. If, for example, a team misses the entrepreneurial insight to find a way forward, an employee with the available knowledge and skills can assist for a short period of time, given the opportunity (Stapel, 2019).

A good example of a place where the combination of changing (in)formal relations and a common set of practices come together is Spotify. In the workplace, the organisation's goal is to have 'aligned autonomy' – with the understanding that strong alignment enables autonomy. Employees work in 'loosely coupled, tightly aligned' squads (teams of around 7-9 people). Besides these squads, the organisation is largely built up of chapters: people with comparable talents, skills and action agendas; tribes: groups of squads working on a comparable theme; and guilds: informal groups of people with similar interests ("What It's Like to Work "The Spotify Way"", 2016). People always belong to one of the first three and might also join a guild. The sense of community is more important than a very formal and rigid structure (Kniberg, 2014-1).

Proper grounding is based on a combination of these relationships, everyone being aware of the organisation's North Star, and common principles that form the mindset at the organisation. Their common practices are based on the agile way of working, but Spotify emphasises that the principles of their approach to working and organising are always more important than 'regular' Agile practices (Kniberg, 2014-1; Kniberg, 2014-2).

A possible way of providing a support for the grounding, is the application of 360-degree feedback, as used by JADOS, a Dutch organisation that provides varies forms of support to people with autism (Stapel, 2019). Such

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v Anyone willing to put in the effort, that is. If employees are completely against this approach, for example because they are too attached to the 'old ways', they probably won't thrive with a looser dynamic like this one. The question then becomes whether they are an asset or a liability to the organisation. If they disagree with such an approach, they probably weren't part of the community (Aghina et al., 2017) anyway. On top of this, it is possible (re)gain the right knowledge with people that have the right mind set (Mahadevan et al., 2017), but the opposite is probably harder to achieve.

Figure 22 The dynamic action agenda is the result of the environment, culture and grounding employees encounter and their skills and talents.

an approach to feedback allows various colleagues, with different types of grounding (see below) to provide feedback on your performance - leading to a flatter, more transparent hierarchy and more open culture.

Action agenda

Instead of creating set-in-stone job descriptions, employees should work based on their individual talents and mastery of certain skills (Minnaar & de Morree, 2017). Through the various blocks described above, the organisational context can be shaped, instead of dictating individual actions, which constitutes a less successful management style (Fæste, Reeves & Whitaker, 2019). The constantly changing grounding (i.e. relationships & place), combined with a transparent and forward-looking culture should foster a dynamic action agenda for employees (see Figure 22). This does not mean that employees can just do whatever they please. On the contrary, at any moment in time, every employee should work according to clear and accountable roles (Aghina et al., 2017), both for the sake of clarity and to facilitate the engagement-increasing autonomy discussed earlier.

On top of being a more dynamic interpretation of a job description, the action agenda should also reflect organisational policies currently associated with a personal development plan (Stapel, 2019). Since the shifting internal context allows for dynamic action agendas, and in order to maximise the focus on talent and skill-based task allocation (which, in turn will probably increase both output and engagement), each and every employee should be given the opportunity and the responsibility to think about future growth. Questions like 'What do I need (to learn), to become the best possible version of myself given my current action agenda?', and 'What do I want to learn and where do I want to go next?' should be formalised parts of an action agenda.

However, employees across the organisation should proactively look for, for example, opportunities to create value, for changes in consumer preferences etc. Some form of entrepreneurial drive can help them act on these insights (Aghina et al., 2017) - especially because the environment allows for this, and the grounding is flexible and fosters role mobility. Organisational culture should highlight this freedom and expectation, and support those with less entrepreneurial drive (Stapel, 2019). Throughout the organisation, such tasks should be viewed as integral to an individual's job, as opposed to a task on top of their regular action agenda.

A famous and fine example of a personally owned action agenda amongst employees comes from Dutch organisation Buurtzorg. Almost all employees at Buurtzorg are nurses. As such, their main day-to-day activity is tending to patients that need their help - in the case of Buurtzorg in their own homes. However, the way the organisation is set up, and makes use of the various elements, results in employees constantly balancing their own tasks and roles. Teams of (up to) 12 nurses (The Buurtzorg Nederland (home care provider) model, 2016; de Morree & Ronner, 2019) are themselves responsible for a neighbourhood with patients: they plan their own visits and manage all day-to-day activities ("Buurtzorg's Healthcare Revolution: 14,000 Employees, 0 Managers, Sky-high Engagement", 2017). Roles (such as being in charge of planning, finances or being 'office manager') are divided between the team members (Scholten, van Roessel, Ford & Moini, 2015) – by themselves – and can rotate over time (de Morree & Ronner, 2019). Less frequent activities, such as hiring new nurses, is dealt with autonomously as well. Any time a team becomes larger than 12, they split up into two new teams. This way, the nurses themselves decide what their agenda looks like, in collaboration with their patients. Their action agenda is always steered by their

(and the company's) ambition to provide as much and as good care as possible, while their autonomy is tested against metrics such as the amount of time spent with patients.

At Buurtzorg, this approach has brought them off-the-charts employee satisfaction, with a very low sick-rate. The cost of healthcare from Buurtzorg is lower than the industry-average in The Netherlands (The Buurtzorg Nederland (home care provider) model, 2016), even though the time patients and nurses spend together is higher (de Morree & Ronner, 2019). As a result, patient satisfaction is high as well (The Buurtzorg Nederland (home care provider) model, 2016; de Morree & Ronner, 2019). The organisation has seen very rapid growth year over year (The Buurtzorg Nederland (home care provider) model, 2016). The example thus clearly shows a win-win situation, where all involved parties have benefited from this new approach.

3.2 DESIGNING OR CHANGING?

In the previous chapters, I described the build-up of an organisation from the human perspective through a set of blocks. The idea is that these blocks are to be designed and iterated upon. However, design often happens in the context of existing remnants. Outside of theory, it is nigh impossible to build a large organisation from scratch. Here, we will therefore introduce the concept of change management, and discuss common pitfalls.

Organisations have now been explored in the context of various building blocks that can be designed and improved over time. However, organisations are rarely designed from scratch. Any organisation that exists and is willing to move towards becoming more progressive needs to not only focus on the desired design of the blocks, but also on the process of implementing these design. As such, the blocks are only part of the story. Organisation design is not so much about filling in these various blocks, as it is about getting there.

Based on our current understanding of design, prototyping and the various organisational blocks, a process could be laid out for working towards such change. However, organisational change already occurs, so it is wise to first have a quick look at this subject and take these learning into our own approach. Enter change management: the field of implementing changes into the organisation over time.

Change is hard

As already explained in the introduction, change management is a difficult topic and many change programmes fail. According to a 2013 Strategy&/Katzenbach Center survey, about 46% of all large scale efforts fail (Aguirre & Alpern, 2014) and a McKinsey study even suggests that this number might be as high as 70% (Ewenstein, Smith & Sologar, 2015). Of course, such numbers are somewhat intimidating and might be especially of-putting for those within the organisation that

currently hold the power to support the change.

"The costs are high when change efforts go wrong—not only financially but in confusion, lost opportunity, wasted resources, and diminished morale. When employees who have endured real upheaval and put in significant extra hours for an initiative that was announced with great fanfare see it simply fizzle out, cynicism sets in." – Aguirre & Alpern, 2014

At the same time, however low these numbers might currently be, change efforts are necessary to deal with the pressures of our current times and many organisations must and will pursue organisational change efforts. Given the current numbers, there must be room for improvement with regard to current theories and practices. In order to investigate novel and more successful ways to approach change efforts, let us first look at common change effort mistakes.

Common change effort mistakes

It is important to understand what the common reasons are for such efforts to fail, before it is possible to use design and our new understanding of organisations in trying to improve change efforts. Based on literature, a few important pit falls were identified that hinder the successful implementation of current change efforts. These probably do not cover the breadth of all issues relating to change efforts, but serve as good illustrations of possible shortcomings. The last part of this thesis explores a different way to approach change and avoid such 'mistakes'.

Top-down approach

When an organisation dives into a (large-scale) change effort, this is often the result of a top-level management decision. A frequent pitfall is to subsequently make all decisions on the change itself and the way in which it will

be implemented with this same group of people (Aguirre & Alpern, 2014). A top-down change management approach leaves out valuable information on the organisation's workings, struggles and opportunities. Information that could have been provided by lower-level employees and used to improve the process and outcome of the change effort. Moreover, exclusion of lower-level employees will most likely cause resistance in the organisation, making the effort that much more likely to fail, since it diminishes front-line ownership and commitment. The term front-line staff is very fitting (though somewhat demeaning) in this situation, since no officer can ever hope to win a battle without his foot soldiers.

Change fatigue

Another common pitfall is the occurrence of change fatigue (Aguirre, von Post & Alpern, 2013; Aguirre & Alpern, 2014). This is resistance that arises when employees feel that too many changes are being made at once (or shortly after one another). This makes them uncertain of how to proceed, which behaviours to change, and in what order. The net result of change fatigue is commonly a strong resistance to the proposed changes. As Aguirre, von Post & Alpern (2013) put it:

"*When employees are faced with too many change priorities, aren't sure how to proceed, and aren't even sure that an initiative is good for the organisation, they take a wait-and-see attitude, looking to their bosses for direction and to their co-workers for clues about which aspects matter the most.*"

Kotter (2018) adds that the amount and severity of this phenomenon increases every time and that resolving complacency is much harder the second time around.

Lack of translation

According to Basford & Schaninger (2016-2) a fairly recent trend in organisations is that of cutting out much of middle management in order to decrease costs (and increase autonomy). However, if handled improperly, this has only made the likelihood of the previously mentioned change fatigue occurring larger. A fair chunk of those employees' responsibilities was centred around translating the strategies and wishes from other parts of the organisation to the front-line staff and vice versa. As such, they were the communication layer that enabled both top-down and bottom-up approaches. In cases where the resulting gap is improperly addressed, change is severely hindered.

Lack of follow-through

Finally, the desire to declare victory too soon and move on to 'business as usual' or the next organisational overhaul can be detrimental to the success of a change effort (Aguirre & Alpern, 2014). As explained below, much of the time and energy goes into actually cementing change over longer periods of time and making all changes in behaviour, mind-set, approach, etc. part of the new culture. If the initiators of the change effort are looking for quick wins and lose attention too early into the process, there simply is no time to let the new behaviours sink in and the project (and possibly the entire organisation) has a high likelihood to fail.

THIRD RECAP

In this chapter, I presented a new view on organisational elements and their connections. The approach was created based on literature on progressive organisations and the insights into design and prototyping as discussed earlier. The view is backed up by extensive literature research, as well as observations of a change effort at a Dutch corporate.

The goal of this approach is to understand the organisation in a different way, to make it possible to build a new organisation together with the employees in an iterative manner. The new view consists of various organisational blocks. These blocks together make up an organisation and are defined from the perspective of the employee - the human. These blocks are:

- Raison d'être. Create a shared purpose and direction that guides the organisation as a whole, as well as the different teams within. The purpose should describe a line on the horizon for both these levels.
- Environments. In order to motivate and facilitate your employees, create inspiring and open physical and digital environments. Environments should suit the company culture and (different) ways of working, as well as facilitate the newly developed groundings.
- Culture. Aim to design and define an open organisational culture, where constant communication and collaboration take place in various (in)formal ways. Radical transparency allows for distributed decision making and for freedom and autonomy, which come with trust and increased personal responsibility, but usually lead to increased job satisfaction and self worth.
- Grounding. Co-create a way for everyone to work together; define formal positions and relationships for the employees towards each other, while creating space for informal relations to organically grow over time. All positions & relations change over time as the organisation adapts, but provide some grounding to employees while they stand.
- Action agenda. Instead of creating set-in-stone job descriptions, employees should work based on their individual talents and skills and create dynamically changing action agendas. At any moment in time, any employee should have clear and accountable roles. However, employees across the organisation should proactively look for opportunities to create value. Moreover, the action agenda should also provide employees with the opportunity and responsibility to think about future growth.

At the end of this chapter, I discussed how the realisation of such organisational blocks would require some form of change management, and presented several pit-falls to current approaches.

ROOM FOR NOTES

SEGMENT FOUR

TOWARDS A REVOLUTION

4.1 Building a revolution.

Now that I have described the various elements of an organisation and the concept of change, it is time to explore the process itself. The effort of building a new and progressive organisation will have to take place over a sustained period of time. I combine principles from design theory with advice from practice on the idea behind the process. Furthermore, I explore the concept of a change effort's initiation and implementation to present a general theoretical model of the process.

4.2 Revolution checklist.

With the various organisational elements defined, and a general process in place that is supported by proven principles, I add one extra layer on top to help with organisational change: through a combination of many insights on change management failures and successes, which I gathered both directly and indirectly, I present a 'revolution checklist'. I define a list of must-do practices to maximise the chance of success and, being a designer, add some personal notes on design tools that might help in applying those practices.

4.1 BUILDING A REVOLUTION

Now that I have described the various elements of an organisation and the concept of change, it is time to explore the process itself. The effort of building a new and progressive organisation will have to take place over a sustained period of time. I combine principles from design theory with advice from practice on the idea behind the process. Furthermore, I explore the concept of a change effort's initiation and implementation to present a general theoretical model of the process.

Process principles
Lessons from design & theory

The design process teaches us to work in circles and focus on problem by gaining insight, reframing the problem and iterating upon that. Approach the situation as a design problem and constantly work towards improving the situation. The concept of agility underlines the approach of iteration, albeit by splitting up the problem and prioritising which parts to solve first[i]. The link between this view and organisation design becomes more than apparent in a 2009 article by Dunbar, Romme and Starbuck.

"Common sense and practical experiences suggest that organisation design should be an iterative, long-term process rather than a one-time act. [...] Furthermore, in recognition that there will be inevitable changes in personnel, routines, resources, and environmental conditions, designs should incorporate elements that will provide continuing support for the exploration of opportunities and the questioning of basic assumptions." – Dunbar, Romme & Starbuck, 2008

The problem to be solved will most likely be very broad and hard to define, as it consists of various elements of the organisation that currently are not working (correctly). Try to define and solve as many (sub-) problems as possible, and do so by making use of the North Star (Aghina, 2017). The organisation's Raison d'Être is what helps everyone keep course; the line on the horizon that allows variations to not become too large deviations. Setting this course will probably help in identifying many current problems as well.

In order to successfully iterate, test assumptions (Boland & Collopy, 2004) and learn from them, either by confirming they fit, or by finding the aspects that make them fail and making sure they are avoided in later iterations. Only through repeated learnings and experiments is it possible to achieve meaningful improvements to a complex problem or imperfect situation. As a result, the change effort is an iterative process, that relies on constantly implementing small changes (probably in the form of prototypes) and learning from the outcomes - preferably in a way that uses data to underscore the case for the change effort (more on that in the next chapter). The result should not be to design or deduce static solutions to the complex problem, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled (Dunbar, Romme & Starbuck, 2009; Fæste, Reeves & Whitaker, 2019).

Lessons from practice
The idea of iteration and continued learning as part of the process of change, fits neatly with the insights by

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i Whether or not design splits up the problem might be up for debate; in some cases designers do split up a problem into smaller separate (and loosely coupled) problems (for example when using a morphological chart to solve for specific functions of a product), while in other situations the focus is more on zooming in and out of a large problem that remains fully connected (i.e. converging and diverging).
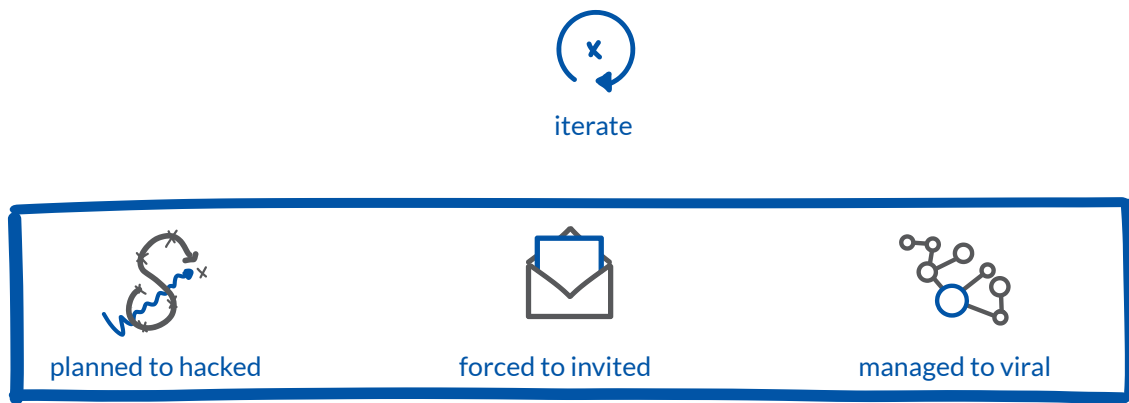
Figure 23 In order to establish an iterative revolution, go from planned to hacked, from forced to invited and from managed to viral.

de Morree & Ronner (2019) on the basic principles of a revolution within organisations. They propose three principles for achieving successful revolutions of change in an organisation (see Figure 23):
- Going from planned to hacked;
- Not forcing, but inviting people to join;
- Stop managing the effort, but going viral.

Planned to hacked

Instead of trying to work out every element of the change effort, try to take a more ad-hoc and agile approach to the effort itself. Use every iteration as a learning moment, and decide on next steps as you go. Such an approach and mind-set helps avoid time and resource intensive 'waterfall' approaches that come up with the wrong solution all-together. As such, this need for agility applies not only to the progressive organisation that is to be built, but to the effort itself as well.

A possible approach to this principle, is to try and make the change a fully integrated part of the 'heartbeat of the organisation'. In other words, to completely embed iterative change as a part of day-to-day operations in the organisation. A risky, but interesting alternative tactic is to 'ask for forgiveness, not permission'. In other words, to just start with changes and build a case with data along the way. This bottom-up approach will probably not work in all circumstances, but is an interesting interpretation of this first principle.

Forced to invited

The second principle of revolutionary change is to invite people to join the effort, instead of forcing them.

Like the other two principles, this idea relies heavily on the concept of iteration and heavily depends on the (measured) success of the effort so far. Inviting people to join enables slow and organic growth of all changes. At the same time, it helps foster a sense of engagement amongst employees, something that is of great importance during such efforts (as will be explained in the next chapter). Kotter (2018) agrees that individual choice is of great importance in change efforts.

There are several ways to implement this principle into the effort. For example, teams of employees can be asked to vote whether or not they want to join the change effort (right now). In the case of ultimately successful change efforts, the vote to not join might be overturned at a later stadium, but at the time, there was a sense of free will nonetheless[ii]. A more risky approach is to transfer much of the power to employees, as exampled by an organisation where all employees spearheading the change effort handed in signed resignation letters to their staff (de Morree & Ronner, 2019); essentially inviting them to choose between for or against the change.

Managed to viral

Finally, a sure-fire way of achieving engagement is to create a lot of hype around the change. Again, this principle relies on the (measured) success of the effort up till that point, but less so in comparison to invites. According to Ferguson (2008) social capital is a principal motivator to us humans, and this can be exploited in the pursuit of growing the change effort. If the effort is able to become social capital, then people will want to be part of this change and immediately opt to invite themselves if possible.

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ii Also, it must be mentioned that ultimately not everyone can be satisfied, and that any change effort will probably mean the forced or voluntary resignation of at least a few employees. Even organisations that have already (partly)implemented such changes, like Amazon, sometimes find it hard to find the perfect fit in new employees (Aghina et al., 2017).
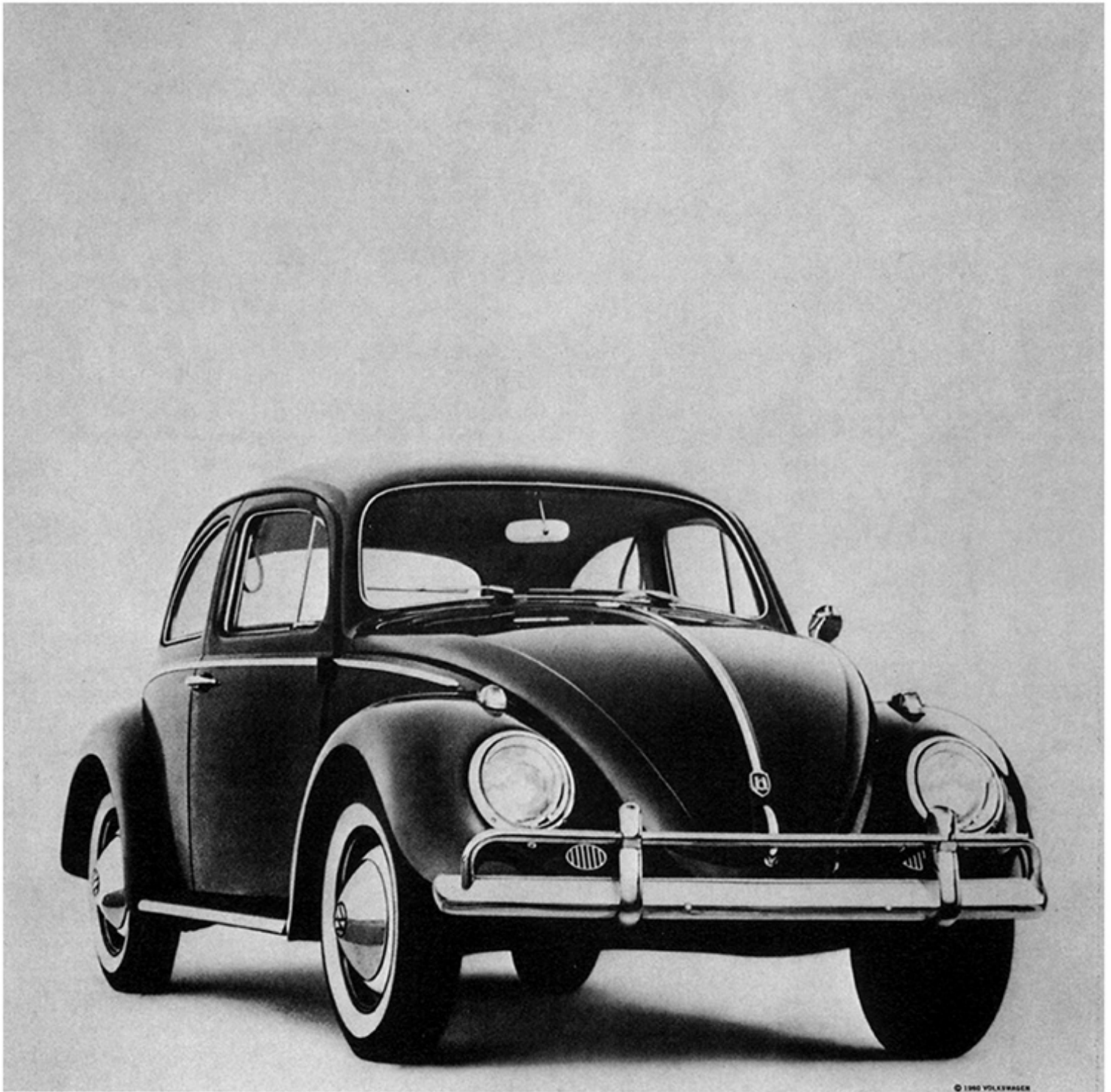
Lemon.

This Volkswagen missed the boat.

The chrome strip on the glove compartment is blemished and must be replaced. Chances are you wouldn't have noticed it; Inspector Kurt Kroner did.

There are 3,389 men at our Wolfsburg factory with only one job: to inspect Volkswagens at each stage of production. (3000 Volkswagens are produced daily; there are more inspectors than cars.)

Every shock absorber is tested (spot checking won't do), every windshield is scanned. VWs have been rejected for surface scratches barely visible to the eye.

Final inspection is really something! VW inspectors run each car off the line onto the Funktionsprüfstand (car test stand), tote up 189 check points, gun ahead to the automatic brake stand, and say "no" to one VW out of fifty.

This preoccupation with detail means the VW lasts longer and requires less maintenance, by and large, than other cars. (It also means a used VW depreciates less than any other car.)

We pluck the lemons; you get the plums.

Figure 24 1960 VW 'lemon' ad.
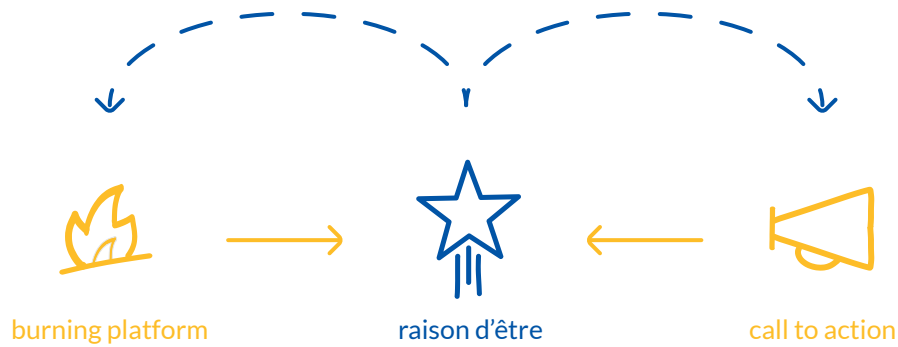
Figure 25 The burning platform and the call to action tie into the organisational purpose.

There are several ways of achieving such a viral status and many can be found in marketing. A tactic can be to make the message you want to convey very cryptic and thus spike someone's interest (completely detached from whether they are interested in the actual message). This was the tactic used by Volkswagen in their famous 1960 'lemon' ad (Coleman, 2009; Shields, 2016) (see Figure 24), and also a tactic used as part of an internal revolution at Airbus (de Morree & Ronner, 2019), where employees had put up cryptic stickers throughout office buildings in the time leading up to an announcement. Such 'word of mouth marketing' is the same tactic used by (illegal) rave parties to organically gather a group of like-minded people and have them work towards a goal.

Nike, which made use of this 'mystery-tactic' in 2018 by requiring buyers interested in a particular model shoe to solve a set of cryptic hints (Riemens, 2018), also applies another tactic for generating hype; scarcity. Together with other brands, like Supreme and Asics, the brand 'drops' limited edition shoes and clothing on occasion that generate lots of hype and are only available in very limited quantities (van Erven, 2019). By purposefully limiting the amount of available spots, the perceived value of these spots is increased. Lynn (1991) writes that 'marketing practitioners have long assumed that scarcity enhances the perceived value of products and opportunities.' In the context of viral change efforts, this principle is easily combined with that of invited participation, by limiting the amount of accepted invitations over time. In practice, this tactic is successfully being used by bol.com (de Morree & Ronner, 2019), where the roll-out of a new way of working is voluntary and limited to a small groups. In the case of bol.com however, this decision was made out of necessity (as not enough people were available to help everyone shift at once), and not as a conscious decision to go viral.

Process initiation

The actual initiation of a process will most likely come from one of two sources: either a negative impulse in the form of a burning platform or positive impulse in the form of a call to action or 'abundance gap' (Dunbar, Romme & Starbuck, 2008; Stomph, 2019), see Figure 25. Both these impulses have the power to help create a more tangible sense of urgency for the process than the organisation's (new) raison d'être, as they probably hit closer to home for many employees. They are, however, inevitably connected to the purpose. As change can be scary, it is important to find or create a tangible sense of urgency for the effort, especially at any point of scaling up. It is basic human nature to resist change. This way, all layers of the organisation, but especially those employees involved from the start, will have a tangible hook, a solid reason for the (potentially) large-scale changes that occur as a result of pursuing organisational agility.

Burning platform

Find and decide on the one thing all involved agree really needs to change as soon as possible, in order to build a sense of urgency and momentum within the organisation (van Heerden, 2018). Of course, there are many more reasons for the effort (like the overarching reason of dealing with rapidly changing circumstances), but these are too abstract to grasp quickly. A burning platform provides the tangibility and recognition needed to foster involvement and can help convince people in the organisation to join the conversation.

The burning platform also immediately provides a problem to start working on. It helps focus the effort's starting point and provides a base to iterate upon. Like with any step in the design process or when prototyping, it is vital the burning platform is made as tangible as possible, e.g. through storytelling or clear visuals.

organic growth　　　　hard return

Figure 26 Scale up of the revolution can take place through continuous organic growth, or a hard return.

Call to action

A second possible initiator is an 'Elon Musk-style' call to action (Stomph, 2019). An inspiring goal, set by someone to inspire people and join in an effort. Theoretically, this call to action can come from anyone – inside or outside of the organisation. However, the person delivering the message must have enough charisma to mobilise a group of people with that message. Such a call to action must therefore be inspiring, but at the same time concrete enough to activate people. As such, it might be viewed as a more concrete interpretation of (part of) the organisation's new purpose, or the spark that initiates the development of a new purpose.

An interesting notion is that such a positive approach to process initiation also opens up the possibility for a preemptive transformation effort. Fæste, Reeves & Whitaker (2019) argue that, if organisational change efforts are successful, they offer a competitive advantage to the organisation. Therefore, the ability and capabilities to pursue (continuous) successful change efforts as an organisation can be viewed as a competitive advantage and underscores the idea that such change efforts need not be undertaken only after something has gone (terribly) wrong with and/or for the organisation. The organisation thus competes on resilience and the level of preparation for the unknown.

Raison d'Être

Finally, the organisational purpose (North Star, Raison d'Être) also provides grounds for starting a change effort. Either through an existing purpose that is yet to be achieved, or through the development of a new one. However, as mentioned earlier, this purpose might not be tangible enough to spark enough immediate action, so it will act more or less as a catalyst on top of either of the two initiators.

Scaling up

There are several ways to scale-up and implement the change effort within the organisation. Either through continuous organic growth, or stochastically increasing the scope and effects of the iterations.

Continuous organic growth

When strictly following the principles as explained above, a logical approach to scaling the change effort would be to continuously test changes and, as part of various iterations, gradually include more and more employees. By means of invitations, new employees, new teams, new parts of the organisation become part of the change effort. This is the approach currently being taken by bol.com (de Morree & Ronner, 2019) in their change effort and where, over the course of 1.5 years, approximately 500 employees have joined, with more teams on the waiting list. However, there might come a point where the change has either gained too much momentum and attention within the company to grow organically, or the remaining employees stop volunteering to join.

Hard return

From an organisational perspective, this can be the moment in time when the iterations (and prototyping) within the effort should stop. For a while at least, large-scale iteration efforts should come to a halt. Continued prototyping, without actual scale-up and widespread implementation, will fail to achieve the desired results. From that point onwards, the decision must be made to 'just go with it' and roll-out those practices, environments, etc., that have been developed over time to all (remaining) employees. A hard return must be set, after which the new organisation, with all its facets is implemented quickly. From that point on, iteration can continue again.

An example of such a hard return was the implementation of the new way of working at ING Netherlands (van
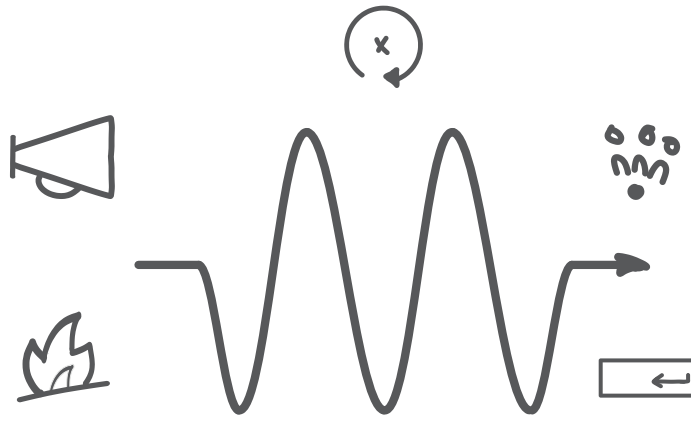
Figure 27 Where the call to action and burning platform inform process initiation, organic growth and hard returns inform its scale-up.

Buuren et al., 2017; Mahadevan et al., 2017), where the entire way of working at the Dutch headquarters was changed following experimentation with just one team. The most interesting part of that particular hard return for the author was that he learned most of the involved parties felt the experiment itself had failed miserably. Management felt however, despite the failure of the experiment itself, enough learnings had been gained to go forward; the prototyping phase had uncovered mistakes which would not be made again in the scale-up.

Note that, strictly speaking, the difference between these two approaches is mostly in the step-size and the level of freedom people have to join the effort. Both approaches are part of a constantly changing organisation. In other words, the approach after the hard return is still subject to change. If implemented correctly, the change effort is never finished. As such, there is no real difference between the organisation design and the organisational change process; both are continuous iterative improvement: controlled revolution.

General process

The effort's initiation and implementation are thus guided by different concepts (see Figure 27). By bringing these concepts together with the revolution principles and the organisational blocks, we get an overview of this process of controlled revolution, as depicted in Figure 28. The process is always different, but based on the elements discussed before. Guided by an organisational purpose (raison d'être), the various organisational blocks are constantly updated through iteration. This iteration is based on three principles (hacking, inviting and going viral). Throughout the process, several choices can be made, such as initiation through positive persuasion (call to action), or through focusing on existing problems (burning platform). Over time, changes spread out through the organisation, either through organic growth or short moments of enforced scale-up (hard returns).
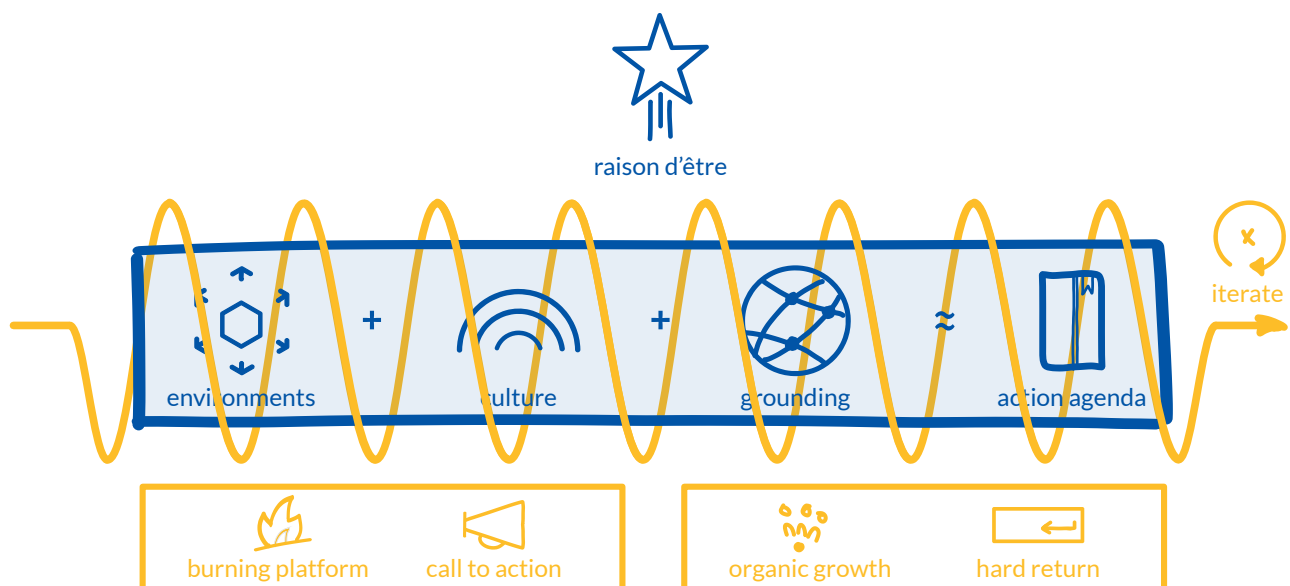

Figure 28 The organisational blocks are iteratively improved (according to the revolution guidelines); initiation and implementation can vary.
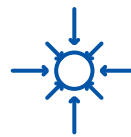
4.2 REVOLUTION CHECKLIST

With the various organisational elements defined, and a general process in place that is supported by proven principles, I add one extra layer on top to help with organisational change: through a combination of many insights on change management failures and successes, which I gathered both directly and indirectly, I present a 'revolution checklist'. I define a list of must-do practices to maximise the chance of success and, being a designer, add some personal notes on design tools that might help in applying those practices.

From literature on change management practices, a set of blog posts and a workshop on progressive organisations, as well as talks to a practitioner of change management, a checklist was created (see Figure 29). This list encompasses a breadth of aspects to consider when revolutionising the organisation and makes up the second toolbox of this thesis. It will be discussed here below. Please note that all best practices and steps on the list are intertwined. They depend on, link to and reinforce one another. Finally, they are subject to change over time and from the environment. Some apply to the inevitable steps in the effort's progress, others to the reasoning behind the approach. Together though, they tick off all the tacit knowledge[i] to keep in mind when trying to change any organisation. Moreover, many of these practices do not only apply to designing and delivering the change as it progresses, but also to the desired practices of the organisation afterwards. This is because they surely overlap with the changing circumstances and the new way of looking at organisations investigated earlier.

be broad about it

approach from all angles

talk about the future

change by changing

take one step at a time

strengthen through technology

Figure 29 The six main categories of the revolution checklist.

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i That is: all the tacit knowledge I found.

"Romme and Endenburg (2006) illustrated how designers can use visualisations and narratives to encourage people to imagine new organizational forms."

Dunbar, Romme & Starbuck, 2008

Be broad about it
Create cross-organisational involvement

Involve all formally and informally defined groups in your organisation in the design & change efforts. This means involving all different layers (Aguirre & Alpern, 2014; Kotter, 2018), departments, silos (Gast & Lansink, 2015), etc. that your current organisation might have in pursuit of becoming an organisation that exists without some of these structures.

Understand that, if done right, involvement will lead to investment in many cases. By simply making employees part of the change effort, they become more invested in it (Aguirre & Alpern, 2014). The opposite is true as well. Not feeling involved is the second-largest reason people resist changes in an organisation (Aguirre, von Post & Alpern, 2013). The masses can hinder the change effort if they do not feel engaged and/or believe in the purpose behind it (Basford & Schanginer, 2016). You will need all layers of the organisation to make the change reality (Aguirre & Alpern, 2014; Kotter, 2018). This means that solely forcing change in top-down fashion will likely fail. Moreover, as a human, an executive simply does not know everything. The rest of the company, including middle management and frontline staff can provide the change effort with valuable information on the organisation's formal and informal build-up, processes, etc. (Aguirre & Alpern, 2014). A diversity of perspectives will help the effort through the possible emergence of new successful approaches (Fæste, Reeves & Whitaker, 2019). This will increase the likelihood of both the change process tackling the right issues and of it being carried out at all. When the people involved in the effort are committed

to it, this will make the change 30% more likely to stick (Ewenstein, Smith & Sologar, 2015). On top of this, the motivations and expectations of those involved can greatly influence the (success of) outcomes, so the right level of involvement is crucial (Dunbar, Romme & Starbuck, 2008).

A large part of involvement has to do with attention and the feeling you are actually being heard, so it is definitely recommendable to have many small sessions be part of the effort. In sessions like those necessary for creating a shared vision (see further down), the ideal amount of participants, based on experience from efforts at a large Dutch organisation, is ten. Never try to hold interactive sessions with more than 15 people, and decrease this number if especially emotional topics are to be dealt with. Many of the aspects that pertain to creating such involvement, fall under the umbrella of 'transformational leadership[ii]'.

There are many ways of involving people and making them be and feel part of a group. In design, we often work with groups of diverse people that don't necessarily feel connected to each other, even though they are. In large organisations, people might have such diverse activities as part of their operations, that employees do not always understand each other when talking on 'their own level', so it is very important to make them feel connected again. In design, we often use ice breakers to make people connect to each other on a human level. Ice breakers, or energisers, are small games to be held at the beginning of meetings, or after a break. People are forced to step out of their comfort zone, by

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ii Style of leadership in which the leader identifies the needed change, creates a vision to guide the change through inspiration, and executes the change with the commitment of the members of the group. *"Transformational Leadership | Definition" http://www.businessdictionary.com/definition/ transformational-leadership.html Accessed 25 Apr. 2019*

creating a socially disruptive situation. Examples include a game where people have to tap others on the knee, while prevent being tapped on their own, telling each other their hidden talent, describing their favourite day out or envisioning their dream job.

Another way of creating widespread involvement is to actively ask for input, for example through a post-it wall, an idea box or a discussion forum. In large organisations, especially those that are geographically split up, digital tools can help achieve this as well. Such widespread gathering of input can be relevant with other revolution blocks as well (see below). Finally, 'boundary objects' can be of help in bringing together groups of people with different backgrounds. This concept will be explained in more detail down below (under 'create a shared strategic vision').

Have an aligned C-suite

For the effort to be effective, make sure there is support from the top of the organisation.

"all successful change initiatives require a well-aligned and committed group of executives, supported by the CEO" - Aguirre & Alpern, 2014

Though it is imperative to involve the entire organisation, the top-level of the organisation needs to support the change effort at some point, in order to make it spread throughout the organisations. There will also be a point where the where and how of the effort is agreed upon by this group. There is no use if everyone is disperse in their understanding and wants to try a different approach. Kotter (2018) agrees that effective change relies on leadership and management

and that a team effort on vision, action, innovation and celebration is paramount. The approach is similar to that of bringing design thinking into an organisation. As the CEO of Fjord design explained in a 2014 Huffington Post article[iii], the effort is a combination of a top-down & bottom-up approach.

Whereas Aguirre & Alpern (2014) recommend the top executives to have a broad understanding of the direction and global approach of the effort before it is well and truly underway, a different approach is an option as well. For example, a way could be to collectively decide the time for change has come, without actually fully understanding how the effort will proceed and where it will end up. This is the opposite of common practice, where more often than not the decision is made that it is not yet time to change, or where the direction and approach are fully laid out beforehand. A contentless 'yes to change' can deliver a powerful message, but remain careful in selecting what input to implement and to keep evaluating and iterating the effort.

De Morree & Ronner (2019) argued that top support is definitely not necessary from the start, in order to make a widespread change effort successful. In the case of bol.com, for example, the pitch for a large change effort from an employee was turned down by company management (because the organisation was still making enough profit with the current approach). The employee decided to implement his proposed changes on a team level anyway and the change spread like wildfire. Eventually, top management realised the potential benefits (data on which was constantly being collected by those already involved in the unsanctioned change)

and gave their approval. Though risky, and certainly not the right approach for every organisation, this case illustrates that top-level alignment and approval need not necessarily need be present at the start of the effort – though it must be ultimately achieved in order to scale up the change beyond a certain organisation-dependent threshold.

Current organisational practices can be slightly tweaked to achieve this alignment; be it with or without the 'where-to' and 'how' of the effort. In many Dutch organisations, 'forest' or 'heath days[iv]' are periodically scheduled for the express purpose of stepping out of routine and discussing those topics and issues with your colleagues that fail to make it into the day to day discussions. These moments can be filled with a host of practices from design to achieve a better understanding of the situation. The team can hold a vision workshop, facilitated by someone from outside the organisation. Through a series of previously thought-off questions, consensus can be reached on the organisation's current setting, challenges, etc. A session could be held to draw out (quite literally, on large canvasses) possible futures, ways to get there, the reasons for change. As designers we often like to draw out the various touch points an organisation has (over time) with their customers through a journey map. This can be done by the team as well; from the perspective of its employees, customers or the organisation as a whole over time in the process of change. In service design, acting out various situations is also quite common. In order for the executive team to understand each others issues, they might act these out as well. Such as a session can, bit by bit, help the team understand whether or not the effort might be worth it.

Form a guiding coalition

As a key part of the change effort, form a guiding coalition (Kotter, 2018): a broad group of well-informed, energetic and committed individuals responsible and accountable for spearheading[v] the change effort. These employees should be able to synthesise insights, sentiments and other relevant information from all over the organisation. They are a select few that can connect with a diverse many. The guiding coalition helps in cutting through the traditional, hierarchical ways of operating, that can hinder and kill the change. The group should consist of more than the 'usual suspects' in the organisation; those people that everyone expects to come up with large change efforts, for whatever reason, so their mere existence and tasks break with the old.

The guiding coalition needs the mandate and power to achieve actual change and overcome and/or overrule the obstacles such an effort will eventually face. In many cases, this will probably also mean that elements of the effort must be pushed (down) onto parts of the organisation. Selectorate theory provides us with the understanding that a very small group of privileged individuals ('the winning') has the power to forcefully instil changes throughout a much larger group (Morrow et al., 2008). This holds through even for the case in which this much larger group completely disagrees with the changes being forced upon them. Logically, however, such a forced fit comes at a cost - most probably that of commitment and engagement. As described above, engagement is a key concern for progressive organisations, so such an approach could be counterproductive.

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iv Bos- of heidagen in Dutch.

v I prefer this term to 'leading' since the idea of this revolution is centred around supportive leadership and shared responsibilities.

In order to borrow all efforts and hold momentum, keep the guiding coalition as constant as possible over time. Make sure that at least a core team is kept throughout the effort. They portray continuity and are responsible for finishing and 'securing' the implementation of the changes. It helps if the group really works together as a team and shares as many of their findings, both positive and negative into all directions.

The guiding coalition will consist of a mix of different individuals from different backgrounds, so it is important to both make them understand one another and to make each individual as accessible to their peers as possible. Design projects often face the challenge of bringing together diverse groups of people. Several options for achieving this are to act out each other's areas of expertise and key responsibilities, to fill out a 'sensitising booklet' with questions about your own day-to-day activities in order to make yourself more aware of them, to shadow each other or to walk in each other's shoes for a day. Again, energisers and icebreakers can be of help in such situations as well. One could try to find ways to make the guiding coalition recognisable, through a piece of clothing (like a twist on the famous Google intern cap), a badge (like in British politics), button or other signifier.

Since the guiding coalition will probably carry a lot of the responsibility with regard to the direction, destination and progress of the change process, they need to find ways to gather input, make decisions and communicate about this. Like with the striving for cross-organisational involvement, design can help in finding ways to creatively ask for input (again, a post-it wall or an idea box might help). More obvious and as common approaches used by designers are, of course, interviews (both structured or unstructured) or user observations and shadowing, where people tag along with a (research)

subject for a (short) period of time. As for output, designers often visualise steps in (partial) roadmaps that depict the next steps as they currently stand. The coalition can constantly try to visualise the direction (a Raison d'Être version 0.1, and the burning platform or call to action) through different tools, such as drawings, movies, posters, etc.

For internal communication, a Slack group is probably a good idea. Such a tool allows the group to communicate important and less important findings. The right type of informal channels – such as midnight insights or shower thoughts – might not only help with ideation, but also with group cohesion.

Raise a volunteer army

Try to involve a large group of individuals from all over your organisation in the effort - Kotter states that 15% of the organisation should be enough to create large momentum towards change (2018). As much as possible, make use of volunteers, not of conscripts. Intrinsic motivation is a powerful force, perhaps more powerful than extrinsic motivation. When individuals are given the choice and as such feel included in meaningful change, they will (want to) contribute.

To do so, give people a reason and motivation to joint the movements (like a vision). Make them want to contribute, not just have to. The volunteer army is thus supported by other best practices, such as a facilitative management and an appeal to both head & heart.

"To build a volunteer army, you need to give people a choice to participate and true permission to step up and act. The volunteer army does not need to involve outsiders; your existing people hold the energy."
– Kotter, 2018

Though theory and practice from the past teaches us to try and plan all process steps, including the moments at which to scale-up or broaden the effort, gathering an army can also very effectively be done by following the revolution principles (de Morree & Ronner, 2019), as explained in the previous chapter.

As explained in the revolution principles, a key to the process will be to grow over time and to invite people to join[vi]. The responsibility for this will start with the guiding coalition and slowly be taken over by and/or aided by the volunteer army as it grows. I previously highlighted the tactics of mystery and scarcity. As designers, we often use hooks to gather consumer insights. For example, the use of an intriguing poster, landing page, sticker that subsequently guides someone to an online form or questionnaire. Even more widely known and simple is the use of flyers or posters with a QR code or a phone number to follow or tear off. Walk into a design faculty any day of the year and you are guaranteed to find them everywhere. Sometimes we promise a reward to those that follow up, other times we appeal to participants' goodwill.

The follow-up, like a questionnaire, could just be a simple set of questions (as little as five) that gather some basic data, either relevant or just for fun and a subsequent message to congratulate someone on joining the army (/effort). A key should be to make the on-boarding feel well thought-out and part of an experience; something special. Without something being actually very exclusive, you can make it feel exclusive. A more elaborate approach could be the use of sensitising material (Sanders & Stappers, 2012) before or during the enrolment into the army. By sending a small package (like a booklet) with the right questions in advance, people get the opportunity to think about the effort in a novel and creative way.

As with the guiding coalition, it is possible to come up with creative ways of making people feel part of the team. An accessory, a sticker for their laptop or tablet, a special character or emoji on the organisation profile, a small hint on their organisation or LinkedIn photo. Any small thing can help people feel part of something larger, while also enabling the message to spread outward (either cryptically or not) by signalling to everyone that someone is part of a group. Sharing personal success stories (as highlighted in the principle 'keep building on progress') - and highlighting poster boys or girls – can also help in building army spirit.
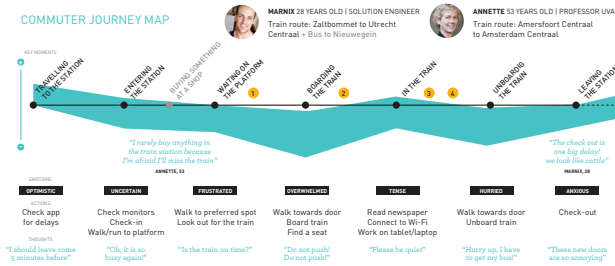
Figure 30 Examples of various design outputs: short personas, customer journey maps and a target group description.

Approach from all angles
Appeal to head ánd heart

In creating an understanding of, and engagement for the change, always appeal to both head & heart. In essence, this means providing everyone with meaning and purpose for, and within, the change. This goes beyond mere logic. In other words, most directly involved with the change need to make sure that the rational and emotional case is made in unison. The reason for this is that '[h]uman beings tend to better respond to calls of action that engage their hearts as well as their minds, making them feel as if they're part of something consequential' (Aguirre & Alpern, 2014). Kotter (2018) agrees and states that:

"*Most people aren't inspired by logic alone, but rather by the fundamental desire to contribute to a larger case.*"

The process initiators mentioned earlier (burning platform, call to action and raison d'être) are good examples of this principle; they highlight a factual need, but also inspire in a more emotional way. In conclusion, people need to understand and agree with the why (and why now) of the change, and need to feel both it and they have an underlying meaning and purpose in the organisation. According to a 2013 study, 44% of people said that not understanding the change at hand was a top reason for them to resist it all together (Aguirre, von Post & Alpern, 2013).

Understand that, from anyone's own perspective, feelings are always true. As a human, one immediately understands that logic, especially outside logic, is almost never enough to overcome feelings and emotions; lotteries and elections tell us this much - as well as, for example, the irrational fear of flying. This requires a particular attention to any situation in which people

disagree on certain facts or feelings - always try to find an agreeable way out. In order to make sure everyone agrees on topics, measure the change in facts and feelings, and always check if everyone agrees in the end. Remember that, especially when it comes to negative experiences, people tend to remember feelings very well.

Part of appealing to the head and heart is also to make sure the story is understandable for each division of the organisation. By knowing your history (i.e., that of the organisation and that of the division – see 'lead with legacy culture' below), it is possible to tie in certain aspects of the change to that part of the organisation. This will make it more relatable.

To make a subject appeal more to anyone, designers often try to make the connection between head and heart. Well-known examples of such approaches are storyboards and personas, like the ones in Figure 30. Personas are fictional representations of groups of people, based on real-life examples and data. Through such approaches, analytical and factual data can be overlaid on more personal and emotional insights. This increases recognisability and connection for people who come across the data. The use of personas and storyboards can tie in really well to the recommendation that stories should be partly tailored to people and parts of an organisation.

In gathering the information necessary to communicate a story, several tools and approaches can be used. A canvas, such as the empathy map (Gray, 2017), can be printed and filled out collectively for different stakeholders in the effort. Such a canvas allows everyone to map the context, figure out how people perceive their world, how they think and act and, most importantly, what 'pains and gains' they currently have that might

be alleviated. Designers also often make collages: visual collections of information (images and text) to cluster thoughts. Again, prototypes in any shape, form or size can assist with the process of reaching a wide audience as well. Other possible approaches are the use of video messages and personal stories from customers and employees on the change, its possible results, benefits, etc.

Lead with the legacy culture

As Lou Gerstner, a former IBM CEO who helped drastically change the company stated: 'culture is everything'. It is something that requires explicit attention in designing change. Even with many formal solutions and changes already in place, employees can (unconsciously) fall into old behaviours and habits (Aguirre & Alpern, 2014). Established culture can thus undermine the formal changes that have already been made. That is why it is imperative to include informal solutions – such as small culture changes or a new motto – into the effort as well. Aguirre & Alpern state that the best way to approach this is to not change the entire culture, but to make the most of it. Draw energy from the existing (soon to be legacy) culture and use it to boost the change effort. This can best be done by finding those elements of the existing culture that align with the change effort and put these front and center[vii]. Such an approach will help with the employees' understanding of the effort and hopefully create an *'esprit de corps*[viii]*'*. Kotter (2018) finally recommends emphasising the link between behavioural and cultural changes and the new-found successes of the organisation.

The best way to approach this, is to just start changing - as will be explained later on. As someone part of the effort, just state:

"Today is the day we – you, me, us – start doing things differently".

In doing so, make everyone part of this change and do not talk about 'old' or 'legacy' ways of working, behaviour, etc. Explain and develop (iterate) the 'new' approach as the 'current' one, from that day on. It helps to center the message around existing stories and themes in the group - they are part of their identity and culture.

An important concept to keep in mind in the context of this principle is that of subconscious social conformity (de Morree & Ronner, 2019) which is demonstrated in the video found on tinyurl.com/socialconformity. Many of the cultural and informal aspects of an organisation are the result of such conformity and are unconsciously displayed and spread by all members of the group. Especially those behaviours that are unwanted in the future organisational culture can be highlighted to be the result of social conformity (if, of course, they are) and addressed as such as often void habit. Most behaviours that are exhibited for which employees do not really have an explanation, such as setting the standard meeting time, sending e-mails to prove work has been done, etc., are the result of such social conformity and a change effort is the perfect opportunity to address these.
In order to understand the organisation's culture, a very

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vii Personally, I also believe that this practice helps the change effort feel uniquely tailored to the company, while also making it feel smaller for employees. A focus on the elements that will be kept in the new organisation inherently shows that not everything is going to change.

viii A shared feeling of teaming and identity.

abstract concept, the use of generative research tools is possible. The use of mind maps, regular interviews and creative sessions, such as brain storming or writing on the elements that really define the organisational culture, can be supplemented with context mapping tools and observations of employees. Sanders & Stappers (2012) explain that such tools help get insights on what people feel. Once such knowledge has been gathered, it becomes possible to start selecting parts of the culture that are desirable.

Though often used in a different context, a SWOT analysis could be made on the organisation's culture. What are the elements of the culture you all agree are a real strength? What are the cultures weaknesses and how can you move past those? An approach like this can foster unexpected results on which you might build.

In order to emphasise where you're coming from, designers would probably try to make references to tangible aspects of the organisation's culture. An easy way to do so is to work with personal stories and movies that highlight those intangible aspects that make the organisation what it is. Through on-screen interviews, blogs or highlights, people that embody the (new) organisational culture and its shared values can be highlighted. How do you become better in such values?

Leverage formal & informal solutions

The best practices to achieve the change are a combination of formal and informal solutions and mechanisms. They often apply to both the change itself and the desired outcome. Aguirre & Alpern (2014) explain that formal and informal mechanisms should work together in achieving the desired change and the desired new organisation. See it like an extension to the tactic of appealing to both head and heart; formal mechanisms provide the more logical approach and help

structure the effort, whereas informal mechanisms act more like symbols (Bylund, 2019) and appeal more on an emotional level, providing freedom to all engaged.

Formal changes have a significant impact on the change. As an example, Basford & Schaninger (2016-1) explain how a change in performance drivers can drastically change the behaviour of people. These incentives can be monetary, but do not need to be so. The main aspect of importance is that formal changes such as these align with the change effort - such as a change to focus on collaboration being reflected in incentivising collaboration.

Informal mechanisms and indirect interventions (those that change the mindset, assumptions and context behind actions) contribute to creating the right atmosphere for change(Fæste, Reeves & Whitaker, 2019). An example could be to create energy & community building events (Gast & Lansink, 2015). These can supplement formal changes and online communication channels - both formal and informal - in place to gather information for and on the change. Symbolic gestures, such as a changing a motto, can be very effective in communicating and enabling change (Aguirre & Alpern, 2014). Nudging techniques, stemming from behavioural sciences, can be used to identify and develop small moment of intervention to change towards the new employee behaviour (Fæste, Reeves & Whitaker, 2019).

Part of the informal changes also lie with management behaviour. According to Gast & Lansink (2015), change requires becoming more facilitative and learning to let go. They recommend leadership to become more responsive to change and to employee input. When unrestricted participation is fostered and an atmosphere is created that shows it actually is okay to change, the

organisation should necessarily also actually commit to the outcomes of employee output.

Engage role models throughout the organisation

According to Basford & Schaninger (2016-1), research shows that conscious and unconscious role modelling influences individuals in the workplace. Unconsciously for example, people often mimic others' emotions, attitudes and speech patterns[ix], and they might also consciously align their thinking and behaviour. Basford & Schaninger recommend making use of this phenomenon through role models or – as Aguirre & Alpern (2014) call them – special forces. When trying to win employee support for a major transformation effort, key opinion leaders may exert more influence than the CEO. Therefore, throughout the change, make sure to engage role models to cement the change even more. According to Aguirre & Alpern (2014) and Basford & Schaninger (2016-1), role models can sprout from any part of the organisation – any individual can be(come) one. Basford & Schaninger add that groups as a whole can also take the form of a role model. Aguirre & Alpern (2014) identify three types of role models: pride builders (great motivators that inspire others to go above and beyond), trusted nodes (the go-to collegaue when you want to know what is happening in the organisation) and change ambassadors (the first to join in on the change and act as evangelists for it).

In any effort, it is crucial to understand who the formal and informal leaders of a group are. Those spearheading the effort can identify them and work to get them on board of the effort as soon as possible. These people can help spread the word behind the effort in an organic and efficient way, but they need to believe in it as well.

Many of the tips that apply to the guiding coalition and the volunteer army, will apply here as well. In dealing with role models, try to find inspiration from the outside world. Through and on social media, influencers are currently becoming more and more important. Lessons can definitely be learned from their approach to role modelling and be adapted to the context of organisational change. Most certainly, the role models need to be provided the right platform as part of the effort.

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ix A good example of this is the way in which people tend to start talking the same as people around them. This is apparent everywhere, from student societies, to groups of colleagues in a certain silo. Take a moment to think about the last time you started talking differently when you became part of a new group.
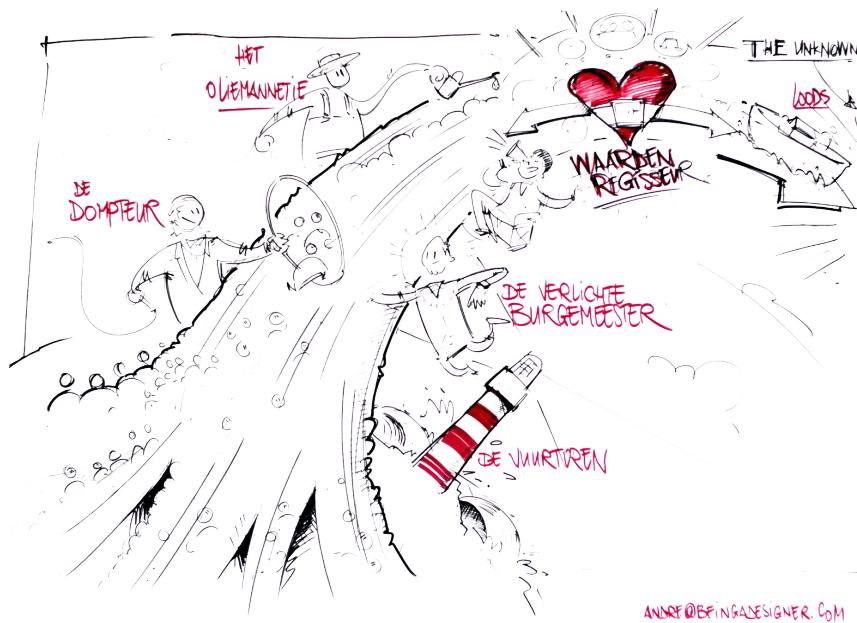
Figure 31 An example of an elaborate drawing ('praatplaat') used to envision possible futures.

Talk about the future
Create a shared strategic vision

It is – and has been – common practice to work with a change story (Aguirre, von Post & Alpern, 2013; Aguirre & Alpern, 2014; Gast & Lansink, 2015; Basford & Schanginer, 2016; Kotter, 2018) in times of organisational change. This story talks about the direction forward for the organisation, the new strategy and the changes needed to get there. As explained above, it is critical to involve the entire organisation in a change effort, so Gast & Lansink (2015) recommend engaging the workforce in developing better strategy and change as well[x]. Kotter (2018) talks about forming a strategic vision that is underpinned by initiatives. The different aspects of creating a shared vision will come back in other best practices, but it is good to explicitly state the importance of having a strong and shared vision forward. The main objectives should be to foster understanding for the reason behind the change (the why) and its importance to the organisation, as well as the urgency behind it (the why now) – even in the case of preemptive change (Fæste, Reeves & Whitaker, 2019). People need to understand why the change is necessary and so important before they will (or even can) commit and contribute to it Basford & Schaninger (2016-1).

Since this vision, the story behind the change, is such a vital element of the effort, make sure everyone feels part of it. The vision is the dot on the horizon that everyone strives to work towards. Anyone involved in the effort, but especially the coalition, must make it so that everyone owns and shares the story. A way to achieve this is to provide a central space for the creating and spreading this story

(literally a single table is an option).

The creation of this vision is something worth taking the time to get right. During the effort, the story is the base of every action and people should never diverge from it, the message behind it and the goals set forth by it. As a result, it should also be established and be fit to serve for a longer period of time (at least 5 years). To make sure that this motivation holds for such a period or longer, make sure to strive for as little doubt over its content as possible. To this extent it's important to understand that someone else's perception of something is their reality. Like with other collaborative building blocks, check and recheck assumptions and outcomes. Is everyone on the same page? Did people say 'yes', when they plan to do 'no'? Have promises been made or expectations been raised that cannot realistically be kept? As explained above, try to work through small and interactive sessions.

For creating the vision, lots of different tools are available to designers, such as the use of interviews, focus groups, but also mind maps, brain writing, HMW, etc. These will be most effective in the settings of creative workshops with stakeholders from all over the organisation. Specific canvasses, like the 5 bold steps approach (van der Pijl, 2016) can also be used.

In design, a common concept for bringing many people with different points of view together is that of a 'boundary object'. Since a change effort will probably be difficult to understand, and be perceived just a bit differently by anyone involved, it helps to work with (tangible) objects that can couple all viewpoints.

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x In some contexts, and for some organisations, it is possible to involve a select group of loyal and frequent customers, referred to as the customer rim, in the creation of this vision (Gast & Lansink, 2015). As people that have regular contact with the organisation, or at least its output, they are probably knowledgable, but they (literally) have a different point of view than employees do.

"When we ask change leaders what they would do differently next time, the top three responses always include spending more effort on engaging people and on developing and communicating change stories."

Gast & Lansink, 2015

Boundary objects are such objects, and according to Rhinow (2012) they are already of 'explicit relevance' in organisational innovation processes. Boundary objects are

"objects which are both plastic enough to adapt to local needs (...), yet robust enough to maintain a common identity across sites." - Star et al. (1989:393), via Rhinow (2012).

They can be very useful in bringing together people within teams and across teams and organisations - their connecting and translating capabilities make this possible.

If the concept of a boundary object sounds too vague: prototypes are boundary objects. Even something as abstract or intangible as a vision can be prototyped and made more tangible. Envisioned future organisational elements can be modeled in whichever way the new vision would steer them, the vision itself can be filmed, sketched, etc. Any of these approaches would have the vision act as a boundary object between colleagues.

When it comes to making the vision more tangible at the time it is more or less set in stone, designers often choose an elaborate drawing. These drawings (see Figure 31) are gaining in popularity, as they are a fun but clear way of making specific elements of the vision more concrete, while at the same time being playful enough to give people a positive feeling towards the whole. If done right, the main communication tool for the vision should allow anyone in the organisation to explain the (new) organisational vision to anyone else - both inside and outside of the organisation.

Communicate continuously

Basford & Schaninger (2016-1) explain that research shows people frequently overestimate the extent to which others share their own attitudes, beliefs, and opinions. They take their preconceptions and ideas about the world, and certain phenomena within it for granted. It is easy to imagine this being compounded by the literal difference in position people inevitably have within an organisation - possibly skewing their attitudes and opinions even more. People simply forget to take into account the fact that others might literally have a different point of view. On top of this, Basford & Schaninger explain that people find it difficult to believe others do not know something they themselves do know. To counter these human traits, it is important to constantly communicate about all aspects of the change. In essence, it takes more time than people usually assume to foster understanding throughout the organisation. Practice has taught many change leaders that engagement simply costs more time and effort than one would think (Gast & Lansink, 2015). Additionally, continuous communication helps in keeping focus on the direction of the effort.

An important aspect of communication is being understood. To try and achieve this as best as possible, consistency is key. Always try to use the same words over and over, in order to make it as clear as possible what it is you are trying to achieve. Only in the case a message fails to land completely, can it be advisable to change the way it is being told. People might not fully have understood or agreed with the first narrative and this could change with different wording. In any case, repeating oneself is key. If something has been said ten times, chances are others will have heard it once. Using multiple channels to communicate the same message can help with this, and though you should always try to view your colleagues as competent (that's why they

work in your organisation), approach communication as if they are uninterested and not very competent (Bylund, 2019).

Communication is tricky and great attention must be given to wording and context of messages. In order to make any message as broadly available and universally understood as possible, use clear and simple language (Jip & Janneke taal in Dutch). Avoid abbreviations and jargon as much as possible, as it only detracts from the message at hand. Content-wise, the right wording is necessary in order to avoid making promises that cannot be kept. People tend to quickly feel something has been promised, so a particular attention to avoid such misconceptions is key. Like with other collaborative building blocks, checking and rechecking assumptions and outcomes is a wise approach.

As designers, we tend to make communication as visual and appealing as possible. Try to communicate in appealing ways and make use of as many visualisation techniques as possible. As explained for other principles in this chapter, there are lots of ways to effectively communicate in such ways. Drawings, movies, good photos, simple and clear text all help in conveying the message. Also, remember that the prototypes that are made as part of the other principles and for organisational block within the change effort are very tangible ways of communicating as well. On top of explaining the change, celebrating organisational wins and giving updates, personal stories can be shared as well.

Remember that probably about 90% of the effort is communication. Always try to find out what people want, where the common ground is, and how to deliver a message as effectively as possible. That is what (strategic) design is anyway. The communication effort isn't merely passive, but also includes active channels, such as interactive sessions, feedback sessions and on-stage talks during monthly or yearly get-togethers.

"There's a difference between changing something on paper, and changing a mindset. You really need to facilitate people to let go of informal divides."

Cornax, 2019

Change by changing
Lead by doing

The change effort will not just 'suddenly' happen by changing variables on paper. The only way to actually make change happen, according to Aguirre & Alpern (2014), is to start to change yourself. The famous quote 'be the change you want to see in the world' also applies here. For those involved in the effort, be it anyone in management, the guiding coalition or any other volunteer, you should just act your way into new thinking. They state that it is critical to ensure people's daily behaviours reflect the change. During the effort, define a few behaviours critical to the change. Then, from that point on, visibly conduct everyday business with these new behaviours. This will have a two-fold result, as it will make employees (help) believe the change is actually happening and it lowers the bar for them to adopt new behaviours as well. When people see others change their behaviour, they will soon follow suit.

Changing culture takes many years, but starts in the 'right now'. As such, throughout the change effort, it is imperative to make clear things are changing and comment on wanted and unwanted behaviours all day, every day. Slowly, but steadily, others will begin to do the same. Change in the moment and never avoid confrontation. Make sure that any conflict is immediately resolved, to ensure that lingering feelings cannot fester over time. Simply try to immediately work towards the new approach with all current employees. Work with virtual distinctions, where employees might still hold their old job description and even manager, but start working with and according to the new approach as soon as possible. This helps involve everyone in the new organisation as soon as possible.

In order to define new behaviours, it might be relevant to first understand current ones. Creative techniques such as role games and playing out current situations can help people understand why things currently happen as they do. This can lead to changing those behaviours. Research methodes, such as ethnography and shadowing can further help with understanding people's behaviour. Doing this right will also help break hierarchies, structures and silos.

Break hierarchies, structures & silos

This best practice will be reflected more in others, such as the need for a facilitative management and a volunteer army. At the same time, it fits the idea of working cross-organisationally. This applies to both the change effort and the organisation afterwards. Ewenstein, Smith & Sologar (2015) specifically mention the need to side-step hierarchy in the organisation by enabling and nurturing direct communication between employees. Gast & Lansink (2015) speak about connecting silos (through digital platforms like a 'social chain') in order to break hierarchy. However, communication is not enough on itself, and formal changes in structure, incentives, behaviour etc. will be necessary as well Aguirre & Alpern (2014). Kotter (2018) states that the removal of barriers is fundamental to the change effort, as it enables action by all employees. It provides the freedom needed to work across boundaries and create impact. This can be done through a combination of formal & informal mechanisms (as will be explained below).

In order to get an overview of a complex situation, designers use a lot of different tools. Grab a large piece of paper and start drawing out all the connections between organisational departments, and silos. Draw out the structures. Designers often use post-its on walls, because it allows for easy changes to be made.

Mind maps can be used to sum up all the different responsibilities and actions in the organisation before understanding how they are currently divided and could be divided in the future. As designers, we would probably also go out an about and interview different stakeholders (i.e. employees) on how they see the current build-up of the organisation.

Once this information is somewhat clear, working through such constructs becomes easier. As such, it is not necessary to have a fully complete and accurate representation – just a global understanding. Breaking the hierarchies will have to be the result of shaking up the various organisational elements, such as environment and grounding, but can also constantly be approached through design practices. For example, the use of silly energisers can create a feeling of equality. Democratic voting mechanisms, such as the dot-method (in which all participants in a group get an equal number of dots to vote on various ideas) can be implemented in the organisation and the change effort. Prototyping the various organisational elements (such as shared offices) and immediately implementing them will also contribute to breaking up power distances.

In organisational settings, finding the common ground between stakeholders is how designers usually try to break up hierarchies. If a proposed idea, solution or concept isn't feasible from an organisational perspective, finding a shared win for all stakeholders might push them to fight those hierarchical boundaries. When working with different teams, that have different goals (possibly mandated by their seniors), a possible way to have them effectively work together is to visualise their common ground. Hopefully, the Raison d'Être can also play a role to this effect.

Actively build (on) talent & skill

Basford & Schaninger (2016-1) stress the importance of making sure that the organisation's employees have the skills & opportunities needed to behave in the new way. Humans often lack insight into what they need to know but do not (yet), so making talent and skill building efforts part of the change can be hugely productive. A number of organisational dynamics can make people hesitant to offer new insights or learn new behaviours. For example when people feel that learning new skills will not change a situation, because nobody will recognise or reward their effort. And this only happens after they have already overcome their (all-too-frequent) overestimation bias on their own skills. When providing employees with a sense of control and competence (by actively building new skills and behaviours), active effort to improve can be expected as a result.

"[...] people are more motivated to achieve their goals when they believe that greater individual effort will increase performance." - Basford & Schaninger, 2016-1

This principle is especially effective when combined with greater personal accountability (Aghina et al., 2017) & feedback. If applied right, these enable greater freedom, while creating intrinsic motivation.

Gast & Lansink (2014) also recommend training employees as part of the change effort, but specifically on the topic of innovation itself. This can be beneficial beyond the change effort, as it can help employees better recognise opportunities from thereon out. Moreover, the organisation as a whole needs to develop the capability to identify the skills of individuals and match these people to the right roles (Fæste, Reeves & Whitaker, 2019). Making good use of the (digital)

environment and grounding of employees can foster such designations. In the case employees with diverse skills are also distributed well, this not only helps with change efforts, but – as a result – also increases the organisational competitiveness and progressiveness through the ability to better deal with new challenges that might arise (Fæste, Reeves & Whitaker, 2019).

Since design projects often rely on a large variety of stakeholders, they tend to start off by discussing people's strengths, weaknesses, areas of expertise and desired learnings. Instead of expecting someone to do something because he is from a certain department or has a certain skill, the group collectively decides who does what. By implementing such an approach to meetings, projects and teams at an organisation, an accessible way of learning is introduced.

A creative way to approach skill-building is by making the motivation tangible as well. Designers often work with workshops to teach people the basics of a new skill. Such workshops can be offered organisation-wide. It helps to stimulate skill-building through concrete goals If, for instance, a part of the effort feels a need for better communication, announce that a particular week, only drawings will be allowed during meetings (no text, no pictures, etc.).

Communication (personal) success stories on skill-building, through whichever means possible, will probably also be an effective way to have people think about their own skills. Nudging techniques can be used to let people get comfortable with the idea of learning something new.

Take one step at a time
Iterate over & over

The goal should be to iterate the entire change process. Fæste, Reeves & Whitaker (2019) recommend experimenting frequently throughout the change effort and amplifying initiatives tand approaches that are most successful[xi]. Aguirre & Alpern (2014) state a Strategy& survey revealed the importance of assessing and adapting continuously through the change effort. This holds for all aspects of the change. Basford & Schaninger (2016-1) apply this idea to the change story, as they recommend building feedback loops into the creation of this aspect. However, through communication and engagement, continuous feedback is possible, and so is cutting out what fails to work. Again, the key to this is inclusion. In a second article (Basford & Schaninger, 2016-2), they also recommend using technology to identify obstacles as you go and clear these as quickly as possible. With or without the use of technology, this again is a clear advice to work in an iterative (almost agile) way. Along these same lines, Gast & Lansink (2015) recommend 'presenting problems in phases' when working with volunteers, to avoid confusion and prevent the project being too overwhelming. This is sensible, especially since problems evolve over time.

Any situation subject to change is likely to be chaotic in one way or the other. Especially in the beginning of a change effort, chaos is normal. Embrace the chaos and persist anyway. A key concept that results from both chaos and iterative processes is that of the mistake. Making mistakes is okay, but only if one learns from them. What counts is the way in which mistakes are dealt with.

Especially in the case of iterative processes, it is possible to build on effort (see below as well) by constantly collecting data on the effort's performance and the parts of the organisation that have already 'taken the plunge'. This data helps make the case for the effort and sway those not yet on board. Again, this is part of the 'head & heart'-approach.

Design processes rely heavily on iteration. The key to making iteration work is to structure the chaos. Expressly formulate hypotheses and reflect on those as much as possible. Depending on the hypothesis, use interviews, prototypes, user observations, etc. As explained later, build on data. Small tests and prototypes can be set up continuously. If the hypothesis proves true, scale up and continue. If it does not, retry. When designers step into projects, they must often make clear that one of the side-effects of iteration is that, though mistakes to be made are probably smaller, they also tend to occur more often and are more visible to a larger group of people throughout the process. People need to be made aware of this.

Keep building on progress

Kotter (2018) also recommends actively generating and celebrating short-term wins. This helps demonstrate progress and keep engagement going, which in turn helps foster support according to Ewenstein, Smith & Sologar (2015). Kotter notes that these short-term wins, such as the successful removal of barriers in the organisation, have a double function: they are a tangible part of the actual change, while creating engagement as well. Again, when feeling included in meaningful change, people will (want to) contribute. Always try to recognise the effort put in by individuals, as this will help in keeping them motivated. At the same time, Aguirre & Alpern

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xi This concept is discussed further down as the communication of a 'Best Available Practice' or 'BAT'.

(2014) mention the importance of measuring the succes of the effort and progress before moving on.

They also stress the need to communicate before, during and after every stage of the change programme. A strong message of change at the start of the initiative is not nearly enough for people to start changing. Throughout the roll-out, and after every element is put in place, constant communication is required to build and keep momentum. They recommend combining different forms of communication (i.e. different channels and forms of (in)formal changes) as well.

Remain committed to the process and the changes, even after the change effort as a whole has been more or less completed. According to Gast & Lansink (2015), it's critical to keep the mechanisms going after initial excitement wears off. Kotter (2018) recommends to push even harder for change after the first wins have taken place. This fits in really well with the idea of iterative process. He explains that the credibility of the change increases with every win and that the increased momentum validates the push as well. However, make sure to keep the momentum going at the right pace; one must avoid change fatigue by implementing too many changes at once (Aguirre, von Post & Alpern, 2013; Kotter, 2018), but also not let the effort slide to a place that will necessitate a second start, which is much and much harder. Therefore, sustain and institute all changes, formal & informal, over time. The right speed will probably be a matter of trial-and-error.

From the perspective of those spearheading the effort, make clear distinctions between different types of 'wins' when building on progress and pushing further. In the US army, various ways of measuring improvement are used, that can be translated to an organisational level as well:

- Measure of Performance. An assessment of a specific solution to a given specification, 'for instance, a MoP can be applied to a specific service to verify it against its specification to validate that it performs correctly' (Webster et al., 2008). This would translate to a type of win as the result of a successful and planned change in processes.
- Measure of Effectiveness. A measurement of 'the fitness of a system to fulfil the needs of its customer'. An MOE is independent of the solution and any criterium (Webster et al., 2008), it constitutes an actual change to the organisation's results and performance.
- Best Available Tactic. A summary of the successful approach for achieving a certain MOP in a different part of the organisation.

Though MOP[xii] are of value to the process of reshaping an organisation, MOE are significantly more important. They are built upon process improvements performed for each service in the overall project (Webster et al., 2008) and have an actual impact on aspects like the organisation's product or service results, customer relations or financial bottom line. MOPs on the other hand mostly only contribute to achieving certain MOE. Therefore, MOE are the more important wins to achieve and communicate about.

In communicating, make sure to create clear distinctions between different types of wins. MOP should be celebrated (and communicated about) on a local scale. These Measures of Process are not important enough to warrant corporate-wide communication per se. An

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xii Note that MOP and MOE can indicate both the singular (measure) and plural (measures) forms of their concepts.

overload of communications might feel 'fake' and have an adverse result. To keep up morale and show appreciation, do celebrate MOP, but on a smaller scale. When a certain MOP was the result of a particularly successful approach, an organisation-wide communication tactic can highlight the BAT behind the MOP instead. Actual MOE should, of course, be celebrated and communicated about organisation-wide as they mark larger and more difficult changes in the organisation.

Moreover, the size and type of win, as well as its most suitable celebration style, will depend on the organisation itself, and can thus be prototyped. Where some organisations might run into scepticism when too many wins are celebrated (Stomph, 2019), other organisations may choose to celebrate many small wins to constantly remind the progress that has been made (Bylund, 2019).

Please understand that gaining support for all elements of the project will take a lot of time and effort. Probably, about 99% of all time and effort goes into gaining support. The remaining percent time and effort is the actual execution. The support, however, is a crucial reason for creating and explaining the reasons behind it, for this whole approach. Without the support of the organisation, the change effort will be like any other top-down forced overhaul. This support-gaining is where the volunteer army and the role models come in as well.

The change effort will be hard and encounter many failures (which, remember, can sometimes be a good thing). Nothing is as easy as it seems, so make sure to keep pushing through. There probably will come a moment where the enthusiasm is gone and many people will keep crying wolf on anything. This is always part

of any effort and has to do with fear of the unknown. Whatever the case, try to: persist, persist and persist. Any change just costs time.

A designer would probably use as many tangible communication tools as possible. Again, think movies, posters, drawings, plenary sessions, small identifiers for teams that have achieved an impressive win. These small wins are especially suitable for communication, as they're easily made tangible. For example, if the goal is to become a greener organisation, counting the number of recycled coffee cups might amount to a drop in the ocean and shouldn't be presented as a revolutionary MOE, but it does constitute a tangible and understandable contribution.

Build on data

During the process, focus should be put on continuously assessing the situation and adapting accordingly (Basford & Schaninger, 2016-1), as highlighted in the necessity for iteration. To do so, it can be of great value to collect, learn from and build on data (Fæste, Reeves & Whitaker, 2019). If the right data is gathered and treated with correct analytical capabilities, the outcome will add credibility to the change effort (Kotter, 2018) and can thus assist in (continuously) pushing through and scaling up (de More & Ronner, 2019). Fæste, Reeves & Whitaker (2019) stress the need to observe how the organisation as a whole behaves to the efforts, not just individual parts (as lower-level changes can have unpredicted outcomes somewhere else).

Note that there is a fundamental difference between quantitative and qualitative data (Martin, 2007). Quantitative data and research, usually the preferred

data-type in business settings, is anchored in past events and provides a sense of reliability[xiii]. Qualitative data and research, the preferred data-type for many designers and in the setting of innovations, is anchored in future events and provides a sense of validity. Sanders & Stappers (2012) explain how qualitative techniques can help with gathering, understanding and acting on more tacit and latent knowledge (i.e. things people know feel and dream). It stands to reason that a combination of this kind of data with quantitative data can help strengthen insights and subsequent arguments. An example could be to combine data-driven quantitative analysis (de Morree & Ronner, 2019) on perceived (potential) improvements in key performance metrics with more tacit qualitative knowledge (Sanders & Stappers, 2012) on improvements in areas such as employee engagement.

The goal of this principle is to create extra validity for the effort and convince more and more people of the value it will bring the organisation. As such, the data should once more be made as tangible and understandable as possible. All the recommendations on communicating from other principles on doing so apply here as well. Personal stories from people that have joined the new organisation can be communicated through a news letter or videos. An authentic approach is vital to making people believe the story, so it's completely fine to highlight both the upsides and the initial struggles of joining the effort.

In order to gather qualitative data on the way people experience the (results of the) change effort, a set of sensitising tools would be a wise idea. Participants can be asked to reflect on and evaluate the effort's progress, their familiarity with the new way of working, bumps and flaws in the approach, etc. Both positive and negative experiences can be collected and shared and used to improve the effort (see the principle of iteration), and to spread the message of the effort. Such reflections can also be done through interviews – both individually or in team setting. In this context, user observations can be an effective method as well. The quantitative data can also be collected through questionnaires and analysing key metrics, such as a net employee promotor score (a number indicating whether or not employees would recommend people working at the organisation).

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xiii Reliability results from a process that produces a dependable, consistent, replicable outcome. Validity, by contrast, results from a process that produces the desired outcome. Reliability is demonstrated by past events Validity can only be demonstrated by future events through the passage of time: we need to watch you to see whether you develop hepatitis in the future to assess the validity of the test procedure. - Martin 2007

Use 21st century technology to strengthen all elements

On top of these 'regular' best practices, McKinsey has published research into some specific best practices that have been made possible (and, according to them, necessary[xiv]) over the past few years due to new technologies. Mainly, these are technologies that helped improve B2C value propositions and value delivery over the past decade or so (Basford & Schaninger, 2016-2), such as mobile apps and social media platforms. However, it is crucial that the technologies used are complemented with 'real-world' measures. For example, Gast & Lansink (2015) recommend supplementing online discussions with offline energy- and community building events - something reminiscent of the way similar to how blended learning works.

In the light of change efforts, the main goal of technologies should always be to facilitate and strengthen the other blocks. Technological improvements need never be a goal, always a means to achieve changes in a more efficient, effective or pleasant way. Through the right application of technologies, it has become possible to facilitate a (larger) public debate and include more people, including those that simply do not have the chance to join at a certain time. If applied in the wrong way, this approach can naturally also have an adverse effect. The change effort can be assisted by these technologies, but its overall success should in no way rely on them. As an example, even in the B2C market, most personalisation efforts based on artificial intelligence are still woefully bad at providing actually personal recommendations. In a large-scale change effort, relying heavily on such gimmicks might work counterproductively when they inevitably screw up.

Personalisation & empathy through technology

The use of new technologies can make the entire change effort (feel) more personal from the perspective of all employees. In the case of 'appealing to head and heart' (Basford & Schaninger, 2016-2), for example, social media platforms can help filter the available information to show personally meaningful stories, personal progress updates and possibly even message that stimulate personal engagement through just-in-time feedback on the employee's performance (Ewenstein, Smith & Sologar, 2015) - to help employees act in the right way at the right time. The personalisation can apply to the effort's various steps and, up to a certain point, to the effort as a whole as well; as Basford & Schaninger (2016-2) explain that the change story, must be personally relevant and meaningful to employees to actively engage them. In doing so, it can better help foster understanding and conviction. Finally, Fæste, Reeves & Whitaker (2019) argue that current and future technology can help better understand and measure individuals' skills. It can thus help them in finding a grounding and environment (and as a result, an action agenda) that better suits their personal attributes.

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xiv When using these types of publications, a healthy level of scepticism is of course always recommended. Though many of the building blocks in this chapter of the thesis are partly based on recommendations from practitioners, this set of blocks warrants a particular caution. Where the other blocks are general principles with which strategy consultants can, of course, help, these blocks are often linked to the need for the creation of new digital systems. Over the last years, creating and implementing such systems has become a large focus for (strategy) consultants, so recommending organisations to apply these is, first and foremost, in the best interest of such consultancies.

Improved input & reach through technology

The right use of technology can also help improve and expand the input gathered throughout the effort, as well as the output provided by those spearheading the effort. Ewenstein, Smith & Sologar, (2015) wrote that:

"in increasingly global organisations, communities involved in change efforts are often physically distant from one another. Providing an outlet for colleagues to share and see all the information related to a task, including progress updates and informal commentary, can create an important esprit de corps."

The right tools can help gap more than just geographical boundaries, as Gast & Lansink (2015) argue that digital tools can also connect (and break) silos in the organisation, through what they call social chains. This is in line with how Ewenstein, Smith & Sologar (2015) argue that digital tools enable employees to sidestep hierarchy as part of the change effort. It is recommended to use a host of different approaches, such as shared dashboards or the use of gamification (Ewenstein, Smith & Sologar, 2015; Fæste, Reeves & Whitaker, 2019). Even more so, the right use of social-networking analysis can help identify (hidden) key influencers, and make it easier to reach out to them in order to improve reach and effectiveness (Basford & Schaninger, 2016-2).

Iteration & reflection through technology

Finally, Gast & Lansink (2015) recommend using the analytical abilities of new technologies to look inward throughout the change effort and improve various elements. As an example, they recommend using technology to identify obstacles to the change effort (such as impediments that hinder the organisation as a whole, or more specific team-level obstacles). Also, new programme management technologies and AI techniques can be used to improve change efforts through, for example, real-time feedback (Fæste, Reeves & Whitaker, 2019).

"The increasing availability of data, together with novel analytical approaches, has made it possible to empirically decode what really works and what doesn't." –Fæste, Reeves & Whitaker, 2019.

The way role models behave in the organisation could also be analysed, steered and reinforced to a degree with data and the right metrics. In order to maintain a sense of urgency throughout the iterative process, Ewenstein, Smith & Sologar (2015) argue that (real time) progress updates can be used.

FOURTH RECAP

In this chapter, I proposed the concept of iterative change without a blueprint. The lessons from design, showed that iteration is a way to deal with complexity and that only through repeated learnings and experiments it becomes possible to achieve meaningful improvements to a complex problem. Based on this understanding, and lessons from theory and practice, I suggested to approach a change effort as an iterative process as well. The end-goal should not be to design or deduce static organisational plans, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled. I presented a set of three mind-set changes to help with this process, these being:

- Going from planned to hacked; Instead of trying to work out every element of the change effort, try to take a more ad-hoc and see-as-we-go approach to the effort itself. Use every iteration as a learning moment, and decide on next steps as you go.
- Not forcing, but inviting people to join; Invite people to join the effort, instead of forcing them. This idea relies on the concept of iteration and heavily depends on the (measured) success of the effort so far. Invites helps foster a sense of engagement amongst employees, something that is of great importance during such efforts.
- Stop managing the effort, but going viral. Boost engagement through hype and rely on the (measured) success of the effort up till that point. Social capital is a principal motivator to us humans, and this can be exploited to grow the effort. People will want to be part of it and immediately opt to invite themselves if possible. Scarcity and mystery are strong tactics.

Moreover, I explained how the change effort can

be initiated and implemented over time, borrowing from literature in diverse fields, including marketing. I recommended to start the effort with a burning platform or a call to action and to have its implementation grow organically over time, or use a hard return.

From literature on change management practices, a set of blog posts and a workshop on progressive organisations, as well as talks to a practitioner of change management, a checklist was created. I presented this checklist as a set of aspects to consider when revolutionising the organisation. The checklist consists of six categories, each with various elements within them. These categories are: be broad about it, approach from all angles, talk about the future, change by changing, take one step at a time and build on 21st century technology.

ROOM FOR NOTES

SEGMENT FIVE

LOOKING BACK, LOOKING FORWARD

5.1 VALIDATION & RECEPTION

In order to check various elements of the research on theoretical and practical validity, and to gauge the business value of the research outcomes, a series of validation efforts was carried out. The main objective was to find out the degree to which the research and its outcomes was understandable, relevant and usable to business practitioners (and thus, organisations).

Approach and goals

The research was set up through three distinct elements. Firstly, the explanation of the design field was validated through an online questionnaire distributed to (former) industrial design engineering students. Secondly, to validate the new view on organisations as a set of organisational blocks from a human perspective, an informational deck was created and distributed to professionals, after which interviews were to take place. Lastly, to research the impact and applicability of the concepts of ongoing revolutionary change and the revolution checklist, two informational slide decks were created and distributed, and several respondents interviewed.

The results of the first and second validation efforts were also used as a final iteration effort on the content of the theory. In other words; the gathered feedback on content, rather than applicability, was collected, analysed and. if possible, used to update both the definition and principles of design and the organisational blocks.

Validation 1: The concept of (strategic) design

The description and definition that was provided for (strategic) design in chapter 2.1 was validated with design students from the TU Delft on various occasions. Firstly, through a lecture and feedback session in 2017 with approximately 50 design students, and secondly through an online questionnaire in 2019, with 21 participants in total. For the full set-up of the questionnaire, please see Appendix D.

The response with regard to the definition, the summary of principles that make up design, and the explanation of those principles was generally very favourable. Almost all participants agreed with the picture that was painted on the field of design. In almost all instances, I was able to add the insights to the text. As a result of this, the text now reflects the understanding of both a litany academic scholars, as well as a number of (soon-to-be) practitioners. These additions to the text are justified, since they are almost always small additions to or a rephrasing of the key notions, based on literature, that were already in place[i]. In case the feedback was entirely new, I added the insight as a footnote.

In order to keep the explanation of the field of design as clean and simple as possible, some criticisms on the definition and explanations have intentionally been left out. To be fair and complete, I will discuss the main criticisms here and explain why I chose not to include them (wholly). These criticisms all have a direct link to the actual definition of design provided in this thesis. Criticisms not discussed below or added as a footnote

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i For example, based on research, I wrote that while design often starts as a human-centred practice, human-centredness is not more important than feasibility of viability. A few participants noted that being human-centred does not always have to be a starting point. They agreed with the argument, but disagreed with the phrasing.

to the main text were all trivial and concerned wording issues that were dealt with point for point.

Main criticisms left unanswered:
- Some participants felt the definition and practices of (strategic) design discussed in the chapter focused too little on implementation. As a result, I should discuss the distinction between design thinking and design doing. In the case of this thesis, this distinction has purposefully not been made, with design referring to design thinking. Also, a few participants mentioned that the description provided for design foregoes many technical elements, such as the understanding of technical and engineered systems and product workings or the actual construction of such concepts. To alleviate both these concerns, I added the term 'strategic' to several instances where design is used.
- Participants indicated their understanding of design to allow for a process to start without a (complex) problem. Someone explicitly mentioned 'tech-push' projects as an instance where a problem does not kick-off a design process. Moreover, participants indicated the possibility for projects to 'make a situation better'. I believe strategic design projects to (almost[ii]) always involve complex problems (a position corroborated by literature) and do not necessarily regard 'tech-push' projects to be true design projects in the same sense. At the same time, it is possible to turn this position around and argue that, if any situation can be improved (in whatever way), the previous situation created a sense of friction and thus a problem to be solved.

- One or two participants stressed the difference between understanding what design is, and how it is practiced. The tools used by designers to perform design describe the how, not the what. As such, I added the words 'the application of' to 'tools' in the definition for design.

Validation 2: The new on organisations as a set of blocks
I was only able to discuss the validity of the new view on organisations with a single participant. Though the interview showed that the participant found the various organisational blocks very relatable and understandable, given the small scope of this validation effort, I am unable to make clear claims on the validity of this part of the research, hence the inclusion in the appendix only.

However, the participant did provide many insights on the context of the various blocks, and related them to existing theories and concepts I had not yet included. As such, several improvements have been made to the descriptions of the blocks, and various examples have been added to the main text.

Moreover, during the interview, the conversation also touched on the concept of ongoing revolution as a controlled iterative approach to change. The participant had some remarks on that topic as well, which have been included in the validation results in chapter 5, together with the results from validation effort 3.

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ii As a result of this insight, I added brackets to the words 'wicked and ill-defined' in the definition for design.

Validation 3: Organisational revolution

The validity of the checklist was tested through semi-structured interviews with professionals in various fields. Their opinion was asked on the validity of the checklist and its underlying assumptions, as well as the concept of ongoing revolutionary change. Moreover, questions were asked to determine the usability of this thesis' research in practice and to gauge the willingness of and desire for various organisations to use my findings. For more information on the material provided to the participants, as well as the questions they were asked, please see Appendix D.

Several interviewees themselves started talking about change in organisations and mentioned that a greater form of organisational adaptability is necessary in our current times. As one participant put it, 'change is the only constant'. When asked for their opinion on the topic, all participants indicated that they agree with the idea of constant and ongoing change. Moreover, one of the participants specifically mentioned their belief that such an approach is 'the recipe for winning organisations', but added their belief that it will prove to be an uphill battle nonetheless. However, participants agreed with earlier findings in literature, that organisations are currently looking for ways to change and adapt. Finally, one participant specifically mentioned their reservations from a consultant's perspective, as they argued that ongoing iteration does not translate well into the concept of discretely budgeted and time-bound projects[iii].

All participants argued the checklist was understandable. Both in terms of the various categories and elements within those categories, as with regard to the icons and terminology. However, some of the interviewees noted that they feel they currently think about change in organisational settings quite a lot, so that a more 'regular' employee, with perhaps a little less interested or experience in organisational dynamics, might find the checklist a bit overwhelming (but at the same time could help people to start thinking about the concept and related issues). As such, the checklist as a whole, and the various categories, should all be accompanied with short descriptions, as currently is the case in this thesis.

Because of their familiarity with the subject, all participants indicated that the various elements of checklist not only felt understandable, but very relatable and recognisable. The reason for this being that they all felt most, if not all, of the checklist elements were already implicitly part of their practice and processes. Three participants described the checklist as logical and universally relevant, with two of them specifically mentioning they 'could not be against it at this level[iv]'. Moreover, some participants explicitly mentioned they

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iii Though I understand the hesitation to pursue such a course of action, the role of the consultant might very well change as well over the course of time. For example, an increased focus on capability building (as opposed to, for example, cost cutting), could enable consultants to train employees and help them in the first iterations. After that, the organisation could continue to revolutionise themselves.

iv This quote hints at the theoretical level of the checklist, with a lack of practical tools ('handvatten') to achieve the various recommendations on the list. Please note that the information provided before and during the interviews did not include the examples from practice and the designerly ways of approaching the situation that the thesis does provide.

feel the various elements in the checklist to collectively describe the basic conditions ('randvoorwaarden') for successful change. The participants did stress, however, that their agreement with the concepts in the checklist does not necessarily exist (yet) in all organisations, and their approaches are not common practice for all. Participants also acknowledged that there are most certainly organisations for whom this line of theory and practice will seem too far from their comfort zone (large and established strategy consultants were mentioned several times).

A downside following this notion; several participants stressed the difference between views and ideas, and reality, with at least one participant specifically mentioning that their reality sometimes does not allow them to pursue the changes they believe in. For example, a client might be looking for short-term cost cutting, and not be open to pursue other approaches with increased long-term viability. Then again, whether or not to align with such a client, is completely up to the consultant; two participants explicitly mentioned they rarely ever solve for the problem as it was initially presented by their client. This reasoning is in line with Dunbar, Romme & Starbuck (2008), who wrote that, according to Rhenman (1973):

"managers choosing consultants prefer those whose ideas align most closely with their own, implying that it is very unlikely that such consultants will counteract managers' misconceptions."

The various participants painted a diverse picture on the use cases for the checklist, both in its current form and in later iterations. The checklist could serve as a starting point for organisational change by helping to create awareness on the various aspects of such an effort, or helping to identify possible key elements in the context of a particular organisation. Like a 'praatplaat' type of drawing is used to start and facilitate a conversation, so too could a large printout of this checklist. Moreover, a modified version of the checklist could serve as an assessment tool, to be filled out by organisations (with or without help of a (design) consultancy adept at using the tool), to understand the organisations current strengths and weaknesses and subsequently decide how and where to initiate a change effort (i.e. based on strengths or on weaknesses). As such, the checklist can help inspire change by making a rather vague subject a little bit more concrete, through the various categories and elements. Finally, through use by designers and design consultants, the checklist can serve as a placemat or coat rack: the various categories and elements allow design professionals to build a tailored set of tools and processes. The checklist serves as a place of reference, to see if the tools cover enough ground and to investigate what is missing from the approach.

Throughout the interviews, the various participants made clear that they feel a change process has no clear order or approach. Some said so explicitly, while others painted a picture of their most common approach – each of them being different. All participants agreed that the various elements on the checklist are intertwined, and that the approach will vary per organisation. Most interviewees explained how change processes are, to some extent, always tailor-made to suite the context. This is in line with many of the elements of the checklist, that recommend creating a shared vision, or building on the positive aspects of legacy culture (elements that all participants agreed with). As such, the various use cases might also depend on and be dictated by the context – especially on the person or organisation using the checklist. As demonstrated by the various use cases above, the application of the toolkit will depend on the person's current grounding and place (whether it is

within the organisation that is set to change, or outside of that organisation, as a consultant for example). Also, the amount of experience with both change efforts and design practice can greatly influence the use of the checklist; an inspired individual within an organisation with the will and courage to initiate a revolution, will probably take inspiration and a sense of overview from the checklist, whereas a seasoned design consultant will be able to use the checklist as a coat hanger and make it part of a project proposal, to show how various project steps fit together in creating an overall picture.

Given these findings, all participants agreed that the checklist will most likely (almost) never be used in the form of a one-on-one copy from the current presentation. Depending on the use case and the context, and because the checklist (in its current form) does not offer much practical and concrete tools, it will most likely be altered a bit by anyone about to use it. As one participant put it:

"[…] it provides a great base for tweaking."

However, most participants agreed that this does not diminish the value of the checklist, varied in scope as it might be, for anyone within an organisation. One participant stressed their belief in the importance of sharing as much information as possible (as underlined by both the revolution checklist and the organisational blocks), and thus also sharing the various parts of the checklist within an organisation.

All participants agreed that the checklist is 'complete enough' in its current form. All of them also added their belief that the checklist is, and will never be, wholly complete. As such, the checklist itself is probably subject to an iterative approach, with the current form being enough of an attempt to warrant a first try with one or

more organisations. These case studies would serve two functions, in that they help iterate the checklist, while providing value to the organisations as well. Various subjects expressed the importance of keeping the number of elements quite low, with one participant suggesting to never surpass 'the magic number seven' in order to keep the checklist memorable and easy to understand. Moreover, most participants indicated their (organisation's) tendency to always tweak tools, methods and processes to the context at hand and their own preferences. As such, when this checklist is used, it will most probably be altered slightly by whomever is using it. In the end, by default, the checklist is, and never will be, complete.

All in all, I can only conclude that 'the real world' might very well be interested in both the new view on organisations, the link to design and the subsequent idea of change through 'controlled' revolution, and the checklist as means to help with this revolution (in whichever way it suits the context). The revolution principles and the checklist in particular suit the needs of organisations and, up to a certain point, reflect their current approaches and way of thinking about becoming more innovative and resilient. In the current form, it provides various types of organisations enough of a base to either start an internal change, or help facilitate the change in another organisation, as long as continuous attention is given to link the current elements and ideas to practice. Given the chance to further develop this tool through practice and continued iterations, I believe this summation of many aspects held to be evidently and inherently true can be of real impact.

Next to the feedback that was collected on the usability, desirability and feasibility of this research for organisations, many other insights were also gathered as part of the interviews. Interviewees had insights,

remarks and criticisms on the (various elements on) the checklist, which could help develop a better understanding of the subject and can be used to create iterations of the material. As such, it could provide valuable information for anyone using or researching the revolution checklist. In order to be as complete, and as far as possible, I have listed the most profound insights and remarks in Appdenix D, and added the recommendation to look into them at a later moment in time. As will become clear, many of the insights are already (partially or implicitly) addressed in the current checklist. However, I feel the need to list these remarks nonetheless, as they all point at possible improvements of the current text. Improvements I simply do not have the time to address .

5.2 CONCLUSION

The purpose of this research was to explore the value of design in the context of organisations; both to expand the field of design (research) and to try develop new understandings, ideas and/or tools to help design new organisations.

Results

First off, research provided a definition for organisations and briefly explored the history of various approaches to (the understanding of) organisations and organisation design. The thesis proceeded to highlight some of the downsides to these approaches, before elaborating on the increased pressures organisation face in today's society. Those pressures were shown to be interlinked and diverse, but could be classified as being the result of changes in technology, competition & demand (both from outside-in and inside-out of the organisation), and regulations. With these pressures in mind, research was done to find a description for the organisational ability, or set of abilities, needed to deal with such pressures. This led to the concept of progressive organisations; a mixture of organisational agility, ambidexterity and employee engagement.

The report proceeded to explore the value design could have in both understanding organisations (from a new perspective) and achieving organisational progressiveness. In order to do so, a solid understanding needed first be established on the concept of design. As such, the field of design was first introduced, after which desk research and interviews led to the establishment of a conclusive definition of design and the discussion of a set of principles that make up its practice. Subsequently, explorations were made in the expansion of the design field and how emerging design domains could also entail organisation design. Prototyping, as a tangible form of iteration, was highlighted as a key element of the pursuit of organisational progressiveness through design.

A broad review of literature on progressive organisations and the lessons learned on design and design practices, led to the postulation of a new view on organisational design. Organisations were presented to be a collection of several organisational building blocks, from the perspective of any employee. Collectively, these blocks describe how an organisation 'works' for any member. These blocks are: the organisation's purpose (Raison d'Être or North Star), and the employee's dynamic action agenda, which is the result of their immediate environments, organisational culture and personal grounding. On top of this, the various blocks were understood to encompass several elements; the environments being both digital and physical, the culture being formal and informal and the grounding the cross product of relationships and certain ways of working.

Subsequently, a general process was presented for the design of new organisations. Rather than build from the ground up, it was argued that organisation design is mostly a case of change management. After the discussion of the challenges and common mistakes surrounding current forms of change management, the idea was put forth to treat organisational change as a (semi-)controlled revolution. The concept of controlled revolutions has strong ties to the design practice and its custom to work in complex iterative processes, guided by common principles and tools. Multiple principles were introduced, as the result of learning from both design literature and practice and a general iterative process was laid out. The process introduced the concepts of the burning platform or the call to action as possible initiators of change, and discussed the possibility to work with continuous organic growth or implement a hard return at a certain point in time. Given the approach of organisation design as a (semi-)controlled revolution, the end-goal (i.e., the design) should not

be to design or deduce static organisational plans, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled.

Finally, a checklist was presented to aid in the implementation of the revolution. This checklist, consisting of 19 specific recommendations in six categories, was the result of extensive literature research, a workshop with like-minded researchers and entrepreneurs and a set of one-on-one interviews.

As such, the research has led to a two-fold application of design, in which a new view is presented on the (designable) build-up of an organisation on human scale and principles from theory and practice have informed the creation of a general iterative design process, accompanied by key attention points.

Research question revisited

How can strategic design be of value in the understanding of and quest for progressive organisations, their design and the design and realisation of accompanying change efforts, to survive and thrive in the context of 21st century challenges?

As mentioned earlier, in the context of this thesis, progressive organisations, those that are as ready for the present and future as possible, are those that (aim to) achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity. The scope of this thesis is not to explain how to achieve all of these (this is simply too large a task), but to explore the pursuit of such organisations through the lens of design.

With this in mind, this thesis firstly shows that design can be of value in achieving progressive organisations, which is an underlying assumption to the research question. So, how then is design of value?

- Design, through its human-centred approach to any concept or problem, is able to provide a new view on and understanding of organisations. The research in this thesis combines literature on successful organisational practices with this approach to postulate a set of organisational building blocks. As such, it provides a base for humanising business.
- Design can be of value to the quest for progressive organisations through its ability to successfully cope with ill-defined and wicked problems. In conjunction with many other design principles, this value stems from the iterative nature of design processes, which is able to inform the proposed change process as a (more-or-less) iterative cycle of continuous learning.
- Design can be of value in the application, monitoring, and implementation of the checklist of revolution best-practices, as presented in this thesis. Though this contribution of design has not been extensively researched or discussed, chapter 4.2 highlights various techniques and approaches designers might apply to achieve this.

In the future, I personally believe design can also be of value through the creation of a set of specific canvasses, workshop formats, as well as other creative tools and techniques to successfully put into practice the theories presented in this thesis.

5.3 DISCUSSION & REFLECTION

Implications & impact

I believe that this research has several implications for multiple fields of practice and study. Through the establishment of a new view on organisations, organisational design and change processes, a host of new research becomes possible. It also opens up the possibility for new practices in all these domains. At the same time, this thesis has shown the ability for a further expansion of the design domain into the domain of organisational revolution.

To my knowledge, this thesis is amongst the first to explore the expanding field of design by focusing on the design of organisations themselves. In my immediate surroundings, I know of studies into the scale-up of innovation, designing for employee engagement, the role of designers and design practice in organisational contexts and the exploration of design methods to successfully implement organisational ambidexterity. This thesis ties in well to these research topics, but offers new approaches and insights at the same time. Furthermore, it is the first study to combine these various topics at an organisational level. I would therefore argue that it has an original impact and offers a platform to build on.

Personally, I believe many of the aspects in this thesis are widely generalisable and can be of use to research projects, as well as the research phase of design projects. The explanation of and elaboration on the pressure facing organisations in our current-day times can especially be of use to both designers and business practitioners. Furthermore, I believe that my brief summary of the field, history and practices of design is generally useful, but does not have that much impact, as no new information is really brought to the table.

The organisational elements, general iterative process and revolution checklist are both general enough to be widely applicable, but detailed enough to foster further research and elaboration. As such, I believe them to be the most impactful elements of this thesis. As will be explained in the limitations, I also believe some of the elements to even be general to a fault. This does, however, make the actually present elements, theories and findings more broadly applicable.

Contributions per domain

Given the above, I believe this thesis provides both a research contribution, an educational contribution, as well as a business contribution.

The research contribution stems from the fact that my research is among the first to dive into organisation design with a focus on practical validity (Dunbar, Romme & Starbuck, 2008) and thus heeds a call to increase the use of practitioners in researching new forms of organisation design (Miller, Greenwood & Prakash, 2009). By connecting the ideas of (strategic) design to the domain of previous organisation design theorists, I provided a new way of looking at both the concept of organisations (through the organisational blocks), and organisational change (through the concept of ongoing controlled revolution and the use of the revolution checklist). The various findings all provide a base for further research (preferably through strong collaborations with practice). For example, the various organisational blocks all link to current research and provide hooks for further academic research on both their definitions and their application. Further recommendations, best practices and tools can be developed for each of them as well, so they also form the base for new design projects.

The contribution to education stems from this thesis' new and up-to-date consolidated definition of (strategic) design. Though none of the findings are particularly new, the way in which I brought together various streams of literature and practice might provide useful, especially for (new) design students to better grasp the field and to both understand and explain their value to others. Moreover, the explanation could prove useful for consultants and organisational practitioners either interested in (strategic) design, or on the verge of applying the theories and practices proposed in the second half of this thesis.

This thesis provides a business contribution as well. My research has shown that the outcomes of the project have direct practical validity. In particular, the concept of change as an ongoing revolution, and the organisational checklist as a tool with several use cases have shown to resonate with business practitioners and provide a solid contribution to practice. As such, organisations can immediately start to explore using the approach, and apply, build on and iterate the checklist, as mentioned in the recommendations (below).

Limitations

Of course, this being a graduation project with a very broad scope and only a limited amount of time, there are several limitations to the work I have been able to achieve.

First of all, the concepts and ideas set forth in this thesis, have not been tested and iterated upon (i.e. adjusted and improved) in a real-world setting or organisation. This could be considered especially difficult to explain in the context of this thesis' premise that iteration, prototyping and continuous learning are a key part of solving complex problems.

There are several reasons for my lack of testing any of the theories, elements and other contributions. Firstly, the project took off with a rather large scope, that I was to narrow over time and make testable. In retrospect, I think that I did not adequately do so. Instead of chasing a specific part of the organisational reform, I decided to pursue the overall picture. This eventually meant even including more concepts, like when I included change management. This has led to a stronger connection to practice and a better base for the development of design tools in the future. Secondly, I blame the lack of testing in part to my hesitation to contact various colleagues, partners and other possible sources, both within and outside of KLM. Had I done so at an earlier point, I probably would have been able to test and implement a chunk of the research (having forced a scope-down through such a collaboration). I did try to set up such a trial, with the Flight720 team, but this never really took off. Thirdly, I stress the necessity for testing during various forms of organisational design, revolution efforts and in solving wicked problems, not in research on these topics. This is an important difference and, as such, the lack of expansive testing does not undermine the validity of this project or its premise. Moreover, I do think that the project interruption contributed to the lack of prototyping, as the goal of the project shifted towards synthesising insights into a general theory after I returned. However, this is not the main cause, as an earlier 'just-go-with-it' mindset probably would have resulted in a prototype-oriented project. As argued, such a project would have had a narrower scope.

Finally, I was able to gauge the practical validity of the concept of ongoing revolution and the checklist. Though this does not fully make up for testing the theories in a real-world setting, the interviews provided me with a solid belief in the practical validity of the theories. Moreover, the feedback collected from the participants provides a good base for possible future iterations.

A second limitation of this project lies in the range of applicability with regard to the organisations. Throughout the thesis, I refer to an organisation – based on the definition provided in the first chapter –, without actually defining the type of organisation or making links to any existing one. Therefore, the theories and findings might very well not be applicable to all organisations and in all situations. To be more specific, throughout the research, the focus and implicit frame of mind was that of moderate to large service-based organisations, such as telecom providers, banks, airlines and online apps and platforms. Furthermore, it is highly likely that, once taken out of the theoretical domain and into practice, certain changes must be made to the theories and building blocks. A simple thought experiment highlights this. The concept and subsequent reach of the action agenda, for example, will be greatly different for a school teacher, who might make small changes to their education techniques from time to time, an office employee, who might drastically overhaul their day-to-day or long-term activities, or an airline baggage handler, who might not be able or willing to change much about their daily action agenda at all, and for which the theory will not hold up (as well). Two examples that emerged from my validation efforts, where governmental organisations (where urgency might be lower or perceived to be lower as employees do not fear for the continued existence of their governments as much), or family-owned organisations (where top executives sometimes hold their position based on heritage, not merit and skills.

The decision to not scope and solve for specific organisations is partly the result of my broad pursuit of theory. It has a strong relation to the decision not to test from an early point in time. On the other hand, it would have been possible to separately scope an organisation type and make assumptions, perform thought experiments like the one above and talk to people in such environments. However, this was not possible in the given time frame. I believe that this general approach to organisations is of value as well, as it allowed for more broadly applicable theory. This thesis provides a more general framework, for practice to fill in at a later point in time. It is possible that, if I had chosen a specific organisation type, the day-to-day realities of such an organisation had steered too much of my thinking and led to theory with narrow applicability and thus less value.

Thirdly, I made use of a great variety of sources, but must add that a large portion of these sources are not necessarily (peer-reviewed) academic papers. As such, data presented by these parties, including (design) practitioners, managers, consultancy firms and research institutes might be (severely) biased, for several reasons. An example is the heavy focus that sources writing for McKinsey (such as Ahlbäck et al.) seem to put on the use of technologies to aid change efforts. Such practices are most probably beneficial to the effort, but the recommendations also work in McKinsey's favour by recommending the organisation's services in implementing such technologies.

I thoroughly understand that not all data I used is a hundred percent objective and up to academic standards. Then again, as designers we often work with subjective data sources and large heaps of qualitative insights. Throughout the process, I actively sought to find multiple sources to build up the larger parts and broader recommendations of the various models. As a result, many of the elements are based on multiple sources, some academic, some less so. I believe that this adequately reduced the potential risks of adding non-academic sources as well. It is also important to note that I purposefully sought out the advice of practitioners

in various fields, both on paper and through interviews, because I wanted to base my findings on more than theoretical knowledge alone and add as much insights from practice as possible.

Fourthly, I have been unable to extensively research existing literature from the side of organisational sciences and business administration, etc. As such, I already noted that the drawbacks to organisational design highlighted in this thesis might already have been addressed in different theoretical fields.

Previously, I explained that the scope and time frame of my research simply were too small and short respectively for me to adequately explore all these fields and their very extensive bodies of research. Since this research is the result of a graduation project, I also do not feel that such an extensive research could have been expected from me and thus believe that my conclusions and findings are of worth, given the circumstances. Finally, this part of the research seemed least relevant to my field of studies, with extensive research into these topics being more relevant to those pursuing a different degree, such as an MBA.

Finally, validation took place mostly with professionals that either have similar areas of expertise, or similar interests with regard to organisational change efforts. As a result, one could argue that the outcomes presented, both with regard to content and with regard to reception and usability in the outside world, are unsurprising and limited.

I tend to agree with the possible limitation of validating research content-wise. In other words, a validation effort on the results (such as the checklist) with professionals that tend to usually have a completely different view, such as 'regular' strategy consultants, would have probably garnered more reserved and negative response. Such a critical approach could have led to new insights, or sharper definitions, but was not feasible in the current time frame. When it comes to validating real-world usefulness (practical validity), i.e. the research's desirability, feasibility and viability for various organisations, I was able to prove that, at least within the domain of design organisations, design consultancies and other currently progressive organisations, those concepts are true. Therefore, the theories have practical validity. Whether or not the various elements of the research are desirable, feasible and viable for other organisations now also remains a point of investigation for a different project, but it must be mentioned that no theory will (or should) ever satisfy everyone.

Recommendations

I believe that my research should ultimately lead to a set of documents and tools to help people ignite and guide change (revolutions) within organisations. I also believe that this completely different, more human-centred, view on organisations, along with the set of insights on the process towards change, as well as the revolution checklist can be of use in this context. However, much more iterations and testing will be needed to make these rather loosely coupled elements, ideas and notions into a workable set of tools. As such, I recommend anyone willing to pursue this further, consider the following:

- On a small scale, investigate people's understanding and acceptance of the various organisational blocks. Do they agree that these blocks make up what defines the organisation for them? Do they miss something?
- Explore further interpretations and factors for the establishment of organisational progressiveness. I have been able to identify three intertwined abilities (agility, ambidexterity

and employee engagement) that determine progressiveness, but can image additional abilities. On top of this, a measure of progressiveness could help us better understand the level of effectiveness both (the pursuit of) these abilities and the proposed theory have in dealing with current-time circumstances.

- Look into the overlap that exists between the organisational blocks and the revolution checklist. I can imagine that some of the practices that are part of the revolution checklist, like the need to actively build (on) talent and skill, can and should also be part of a progressive organisation. As such, these practices apply to both the change effort and the envisioned organisation. This must and will probably follow from practice.

- As explained in the limitations, I believe it important to scope the type of organisation as well. In order to do so, one must first define types of organisations in the context of this theory; it is possible that in the light of possible consequences this theory holds, a completely new categorisation is needed for organisational types. For example, the current distinctions into small, medium or large; public or private; and service or goods oriented organisations might not translate well to the application of the organisational blocks.

- Though the need for prototyping is stressed, and many benefits to prototyping are listed, no concrete examples are mentioned in the context of the organisational elements or the revolution process. I recommend creating a set of prototyping examples, tips and tricks. Both to further understanding of the approach, and to help potential users of the theory and (future methodology) in their approach. This can be done through further desk research and interviews,

but I would recommend building an overview during the experimentation with and further development of the theory in an organisational context.

- The same recommendation stands for the creating of a set of successful examples of organisational block implementations. Using the theories and approach sketched out in this thesis, what forms of environments, grounding, etc. pop-up as beneficial to achieving organisational progressiveness?

- In the end, I would recommend the development of actual tools and/or canvasses for carrying out the act of organisational revolution along the process and with help of the checklist and organisational blocks described in this thesis. There are several possibilities to do so: generally applicable tools and canvasses (like the business model canvas), or more custom-built internal approaches that are translated to fit a specific organisation and revolution effort on the basis of the general theories (like documents used at KLM and ING).

- As soon as possible, I would recommend to start testing, iterating and prototyping the content of the various organisational blocks in one or more organisations. The goal should be to both test the validity and completeness of these elements, as well as come up with (successful) applications of these blocks. Along the way, the process and checklist will also be tested and iterated upon. As such, revised versions of the findings can be continuously developed and presented. As discussed in chapter 5.1, Appendix D contains additional recommendations and insights from practitioners on possible content improvements.

- Even though I believe to be part of a generation that considers climate change one of our largest,

if not our largest, challenge, I did not include it in my research into the changes of our time. I recommend exploring the increasing importance of sustainability and its role as an organisational pressure. This pressure can either be seen as the result of new regulations, as an opportunity pressure that is the net result of technological advancements, or the result of pressures from both inside and outside the organisation to conduct sustainable business.

- When it comes to the definition of progressive organisations, last-minute feedback pointed towards the narrow scope of 'employee engagement', as opposed to the broader concept of 'employee experience', for which engagement can be seen as a (possible, and) measurable outcome. Given the large amount of overlap between my research findings and recommendations (that influence employee engagement) and those for improving the employee experience, I recommend exploring this concept and its possible inclusion into the definition of progressive organisations as a broader, more inclusive, robust and dynamic alternative to employee engagement.
- As explained in the limitations, I recommend discussing, testing and validation the various elements of the research (mainly the new approach to organisations, the concept of change as a revolution and the organisational checklist) with professionals in domains that are traditionally more distant in their thinking to that of a designer. Both with regard to the content's validity, as to the real-world applicability of the theories and methods.

Personal reflection

All in all, I still look back at this project with a sense of pride. Though I certainly was not able to achieve all the things I set out to do at the beginning, I also achieved many I did not set out to do in the first place. As always, my main shortcoming is the will to do, and include, ever more. That being said, I believe that I delivered something impressive.

Like with any project, there is always more to be done, but my last-minute validity efforts have shown that the current material will probably provide enough of a base for someone else (or even me) to build on in practice.

Given the circumstances, I am also very pleased with the way I managed to deal with the process. Yes, there were several moments in which the direction (and my organisation of the project) were near non-existant, but I believe I managed to steer the project towards a solid ending. The only thing I find difficult, is to make clear how the project and the findings evolved over time (like the two figures in the Approach show). My memory on the subject was very chaotic, and, as a real creative designer, my notes, drawings and texts were all over the place. This would be a good learning objective.

Also, I think the project has really helped me in learning to say no, or to accept that not every contribution you make will be completely done or hugely impactful. Sometimes I tend to forget that a project is just that: a project. When it comes to carrying out a graduation project, I believe I did what I could and that it was enough. My main take-out, and the thing I would definitely do differently given the chance, is the exact premise of this thesis: just start doing it already. Failing is okay, if you just go out there and try.

REFERENCE LIST

Aghina, W., Ahlbäck, K., de Smet, A., Fahrbach, C., Handscomb, C., Lackey, G., … Woxholth, J. (2017). The 5 Trademarks of Agile Organizations. McKinsey Agile Tribe, (December), 1–22.

Aguirre, D., & Alpern, M. (2014). 10 Principles of Leading Change Management. Strategy + Business Magazine, 2014(75), 1–8. https://doi.org/10.1103/PhysRevB.83.081106

Aguirre, D., von Post, R., & Alpern, M. (2013). Culture's Role in Enabling Organizational Change.

Ahlbäck, K., Fahrbach, C., Murarka, M., & Salo, O. (2017, October). How to create an agile organization. McKinsey Quarterly, 17(October), 1–20. Retrieved from https://www.mckinsey.com/business-functions/organization/our-insights/how-to-create-an-agile-organization

Baghai, M., Coley, S., & White, D., The Alchemy of Growth, New York: Perseus Publishing, 1999.

Bar-Yam, Y. (1997). Dynamics of complex systems. Michigan: Addison-Wesley.

Bariso, J. (2019). Netflix Avoids Rules Like the Plague. Here's What It Does Instead. Retrieved from https://www.inc.com/justin-bariso/netflix-avoids-rules-like-plague-its-replacement-is-brilliant.html

Basford, T., & Schaninger, B. (2016, April). The four building blocks of change. McKinsey Quarterly, (1), 23–30. https://doi.org/10.1097/MPH.0b013e31820c3403

Basford, T., & Schaninger, B. (2016, April). Winning hearts & minds in the 21st century. McKinsey Quarterly.

Beck, et al. (2001).Manifesto for Agile Software Development. Retrieved 26 March 2017, from http:// agilemanifesto.org/

Beer, J. (2018). Exclusive: "Patagonia is in business to save our home planet.". Retrieved from https://www.fastcompany.com/90280950/exclusive-patagonia-is-in-business-to-save-our-home-planet

Beer, J. (2018). How Patagonia Grows Every Time It Amplifies Its Social Mission. Retrieved from https://www.fastcompany.com/40525452/how-patagonia-grows-every-time-it-amplifies-its-social-mission

Boland, R., Jr., F. Collopy (eds.). 2004. Managing as Designing. Stanford University Press, Stanford.

Brandt, E. (2007). How Tangible Mock-Ups Support Design Collaboration. Knowledge, Technology & Policy, 20(3), 179–192. https://doi.org/10.1007/s12130-007-9021-9

Buchanan, R. (2001). Design Research and the New Learning. Design Issues, 17(4), 3–23. https://doi.org/10.1162/07479360152681056

Buchenau, M., & Suri, J. F. (2000). Experience prototyping. Proceedings of the Conference on Designing Interactive Systems Processes, Practices, Methods, and Techniques - DIS '00, 424–433. https://doi.org/10.1145/347642.347802

Bughin, J., Catlin, T., Hirt, M., & Willmott, P. (2018, January). Why digital strategies fail. McKinsey Quarterly, 1–15.

Burton, R., Obel, B., & Døjbak, D. (2011). Organizational design. Cambridge University Press.

Van Buuren, R., Rupert, G., Lourens, S. & Melief, F. (2017, October 3). Group Presentation. ING Netherlands, Bijlmerplein 880, Amsterdam.

Buurtzorg's Healthcare Revolution: 14,000 Employees, 0 Managers, Sky-high Engagement. (2017). [Blog]. Retrieved from https://corporate-rebels.com/buurtzorg/

Bylund, I. (2019). [Skype interview].

Calabretta, G., Gemser, G., Karpen, I. (2016). Strategic Design: Eight essential practices evert strategic designer must master. BIS Publishers.

Callahan, R. (2017). The Disadvantages of Rapid Prototyping. Retrieved 2 November 2017 from https://bizfluent.com/list-6306522-disadvantages-rapid-prototyping.html

Campbell, D. (2019). The human errors that brought down the Boeing 737 Max [Blog]. Retrieved from https://www.theverge.com/2019/5/2/18518176/boeing-737-max-crash-problems-human-error-mcas-faa

Cao, J. (2015). How & Why Prototypes Are Mandatory for Good Design | Design Shack. Designshack.net. Retrieved 28 November 2017, from https://designshack.net/articles/graphics/how-why-prototypes-are-mandatory-for-good-design/

Christian, M., Garza, A., & Slaughter, J. (2011). Work Engagement: a Quantitative Review and Test of its Relations with Task and Conceptual Performance. Personnel Psychology, 64(1), 89-136. doi: 10.1111/j.1744-6570.2010.01203.x

Cilliers, P. (2002). Complexity and postmodernism. London: Routledge.

Colman, Andrew (2006). A Dictionary of Psychology. New York: Oxford University Press. p. 670. ISBN 978-0-19-861035-9.

Coleman, R. (2009). Lemon [Blog]. Retrieved from http://www.writingfordesigners.com/?p=1731

Cornax, M. (2019, June 6). Personal interview. TU Delft Faculty of Industrial Design Engineering.

Coughlan, P., Suri, J. F., & Canales, K. (2007). Prototypes as (Design) tools for behavioral and organizational change: A design-based approach to help organizations change work behaviors. Journal of Applied Behavioral Science, 43(1), 122–134. https://doi.org/10.1177/0021886306297722

Davidse, M. C. (2016) Adapt or perish. A customer-centric Agile approach to rapidly prototype business models in fast-moving environments. Unpublished manuscript, TU Delft, Delft, The Netherlands.

De Lille, C. (2019, January 19). Personal interview. Lighthouse Café - The Hague University of Applied Sciences.

Design Council. (2007). Eleven lessons: managing design in eleven global companies. Desk research report. Engineering, 44(272099), 18. Retrieved from http://www.designcouncil.org.uk/Documents/Documents/Publications/Eleven Lessons/ElevenLessons_DeskResearchReport.pdf

Denning, S. (2016). How to make the whole organization "Agile". Strategy & Leadership, 44(4), 10-17. http://dx.doi.org/10.1108/sl-06-2016-0043

Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. (2012). A decade of agile methodologies: Towards explaining agile software development. Journal Of Systems And Software, 85(6), 1213-1221. http://dx.doi.org/10.1016/j.jss. 2012.02.033

Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem–solution. Design Studies, 22(5), 425-437. http://dx.doi.org/10.1016/s0142- 694x(01)00009-6

Dorst, K. (2010). The nature of design thinking. Proceedings of the 8th Design Thinking Research Symposium, 19–20. https://doi.org/10.1111/j.1948-7169.2005.tb00008.x

Dorst, K. (2015). Frame Innovation. MIT Press.

Dow, S. P., Glassco, A., Kass, J., Schwarz, M., Schwartz, D. L., and Klemmer, S. R. 2010. Parallel prototyping leads to better design results, more divergence, and increased self-efficacy. ACM Trans. Comput.-Hum. Interact. 17, 4, Article 18 (December 2010), 24 pages. DOI = 10.1145/1879831.1879836 http://doi.acm.org/10.1145/1879831.1879836

Dunbar, R. L. M., Romme, A. G. L. and Starbuck, W, H., Creating Better Understanding of Organizations While Building Better Organizations (July 1, 2008). Sage Handbook of New Approaches in Management and Organization, edited by David Barry and Hans Hansen. London: Sage Publications, 2008, pp. 554-564. Available at SSRN: https://ssrn.com/abstract=2950880

Dunne, D., & Martin, R. (2006). Design Thinking and How It Will Change Management Education: An Interview and Discussion. Academy Of Management Learning & Education, 5(4), 512-523. doi: 10.5465/amle.2006.23473212

van Erven, J. (2019, May 1). Personal interview. TU Delft Faculty of Industrial Design Engineering.

Esslinger, H. (2011). Sustainable design: Beyond the innovation-driven business model. Journal of Product Innovation Management, 28(3), 401–404. https://doi.org/10.1111/j.1540-5885.2011.00811.x

Ewenstein, B., Smith, W., & Sologar, A. (2015). Changing change management McKinsey Digital July 2015\nResearch tells us that most change efforts fail. Yet change methodologies are stuck in a predigital era. It's high time to start catching up. McKinsey Company - McKinsey Digital, (July), 1–4.

Ferguson, R. (2008) "Word of mouth and viral marketing: taking the temperature of the hottest trends in marketing", Journal of Consumer Marketing, Vol. 25 Issue: 3, pp.179-182, https://doi.org/10.1108/07363760810870671

Fæste, L., Reeves, M., & Whitaker, K. (2019). The Science of Organizational Change. Retrieved from https://www.bcg.com/publications/2019/science-organizational-change.aspx?utm_source=Twitter_Paid&utm_medium=Social&utm_campaign=W20s_Science_Publication_GLB&redir=true

Gallup. (2017). State of the Global Workplace. New York: Gallup Press. Retrieved from https://www.gallup.com/workplace/238079/state-global-workplace-2017.aspx?utm_source=2013StateofGlobalWorkplaceReport&utm_medium=2013SOGWReportLandingPage&utm_campaign=2013StateofGlobalReport_Redirectto2017page&utm_content=download2017now_textlink

Gardien, P., Rincker, M., & Deckers, E. (2015). INNOVATING INNOVATION : INTRODUCING THE RAPID CO-CREATION APPROACH TO FACILITATE BREAKTHROUGH INNOVATION. In The Value of Design Research, 11th European Academy of Design Conference.

Gast, A., & Lansink, R. (2015, April). Digital Hives: Creating a surge around change. McKinsey Quarterly.

Geurts, L., Ullerup, H., van de Garde, E., Trevia, F., & Henriksson, A. (2013). Talking Work-related Stress. CRISP, (3), 30.

Gray, D. (2017). Updated Empathy Map Canvas [Blog]. Retrieved from https://medium.com/the-xplane-collection/updated-empathy-map-canvas-46df22df3c8a

Gruber, M., Leon, N. de, George, G., & Thompson, P. (2015). Managing by design. Academy of Management Journal, 58(1), 1–7. https://doi.org/10.1353/ail.2010.0021

Van Heerden, F. (2018, March 15). Personal Interview. TU Delft Faculty of Industrial Design Engineering.

Highsmith, J., & Cockburn, A. (2001). Agile software development: the business of innovation. Computer, 34(9), 120-127. http://dx.doi.org/10.1109/2.947100

Hong, N. S. (1998). The relationship between well-structured and ill-structured problem solving in multimedia simulation. Knowledge Creation Diffusion Utilization, (August), 101. https://doi.org/10.16953/deusbed.74839

Jackson, M., & Mansell, G. (1991). Systems thinking in Europe. New York: Plenum Press. p.146.

Jensen, M. B., Elverum, C. W., & Steinert, M. (2017). Eliciting unknown unknowns with prototypes: Introducing prototrials and prototrial-driven cultures. Design Studies, 49, 1–31. https://doi.org/10.1016/j.destud.2016.12.002

Kahn, W. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. Academy Of Management Journal, 33(4), 692-724. doi: 10.5465/256287

Kaland, L. (2019, February 28). Personal interview. Eneco World.

Kelley, T., & Kelley, D. (2013). How to Build a Prototype in One Hour. Slate Magazine. Retrieved 28 November 2017, from http://www.slate.com/blogs/the_eye/2013/10/23/the_importance_of_prototyping_creative_confidence_by_tom_and_david_kelley.html

Kniberg, H. (2014, January 30). Spotify Engineering Culture - Part 1 [Video file]. Retrieved March 27, 2018, from https://vimeo.com/85490944

Kniberg, H. (2014, May 12). Spotify Engineering Culture - Part 2[Video file]. Retrieved March 27, 2018, from https://vimeo.com/85490944

Kok, J. (2019, May 8). Personal interview. TU Delft Faculty of Industrial Design Engineering.

Kolko, J. (2015). Design Thinking Comes of Age. Harvard Business Review, 66–71. Retrieved from https://hbr.org/2015/09/design-thinking-comes-of-age

Kotler, P., Armstrong, G. (1980). The principles of marketing (13th ed.)., p 42.

Kotter, J. P. (2018). 8 Steps to Accelerate Change in Your Organization.

Lim, Y.-K., Stolterman, E., & Tenenberg, J. (2008). The anatomy of prototypes. ACM Transactions on Computer-Human Interaction, 15(2), 1–27. https://doi.org/10.1145/1375761.1375762

Luijkx, K. (2017, November 30). Personal interview. TU Delft Faculty of Industrial Design Engineering.

Lynn, M. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. Psychology & Marketing, 8(1), 43-57.

van Lieren, A. (2017). Rational Override ; Influencing Behaviour Beyond Nudging - A Service Design Approach Towards Rational Override ; Influencing behaviour beyond nudging.

Mahadevan, D., Jacobs, P., & Schlatmann, B. (2017). ING's agile transformation. McKinsey Quarterly, (1), 1–10. Retrieved from http://www.mckinsey.com/quarterly

Martin, R. (2007). Design and business: why can't we be friends? Journal of Business Strategy, 28(4), 6–12. https://doi.org/10.1108/02756660710760890

Maurício, V., Ysmar, V., Adler, I. K., Lucena, B., & Russno, B. (2012). DESIGN THINKING - Business Innovation.

Menold, J., Jablokow, K., & Simpson, T. (2017). Prototype for X (PFX): A holistic framework for structuring prototyping methods to support engineering design. Design Studies, 50, 70–112. https://doi.org/10.1016/j.destud.2017.03.001

Michael, L. K. J. (2017). Examining the Literature on Organisational Structure and Success. The College Mirror, 43(1). Retrieved from http://www.cfps.org.sg/publications/the-college-mirror/article/1098

Mikkelsen, D., Rowshankish, K., Soller, H., & Stamenov, K. (2017, August). Tackling GDPR compliance before time runs out, 1–6. Retrieved from https://www.mckinsey.com/~/media/McKinsey/Business Functions/Risk/Our Insights/Tackling GDPR compliance before time runs out/Tackling-GDPR-compliance-before-time-runs-out.ashx

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman Jr, H. J. (1978). Organizational strategy, structure, and process. Academy of management review, 3(3), 546-562.

Miller, D., Greenwood, R., & Prakash, R. (2009). What Happened to Organization Theory?. Journal Of Management Inquiry, 18(4), 273-279. doi: 10.1177/1056492609344672

Minnaar, J., de Morree, P., Ronner, F., & Bexkens, C. (2017). Why the Command-and-Control Mindset is Killing Your Company. Retrieved January 24, 2018, from https://corporate-rebels.com/mindset/

Minnaar, J., & de Morree, P. (2017, April 17). The 8 Habits of Companies You Wish You Worked For. The Huffington Post. Retrieved from https://www.huffingtonpost.com/entry/the-8-habits-of-companies-you- wish-you-worked-for_us_58f53598e4b048372700dac0

Mintzberg, H. (1979). The structuring of organizations. Englewood Cliffs, N.J.: Prentice-Hall.

Mintzberg, H. (2017). MBAs as CEOs: Some troubling evidence [Blog]. Retrieved from http://www.mintzberg.org/blog/mbas-as-ceos

Morgan, G. (1986). Images of organization. Beverly Hills: Sage Publications.

Morgan, J. (2017, March). Why the Millions We Spend on Employee Engagement Buy Us So Little. Harvard Business Review, 1–6. Retrieved from https://hbr.org/2017/03/why-the-millions-we-spend-on-employee-engagement-buy-us-so-little?

de Morree, P., & Ronner, F. (2019). Corporate Rebels Berlin. Presentation, Dark Horse Berlin.

Morrow, J. D., De Mesquita, B. B., Siverson, R. M., & Smith, A. (2008). Retesting Selectorate Theory: Separating the Effects of W from Other Elements of Democracy. American Political Science Review, 102(03), 393–400. https://doi.org/10.1017/s0003055408080295

Netflix Culture. Retrieved from https://jobs.netflix.com/culture

Newman, D. The Design Squiggle. Retrieved from https://thedesignsquiggle.com

Norman, D. A., & Stappers, P. J. (2015). DesignX: Complex Sociotechnical Systems. She Ji: The Journal of Design, Economics, and Innovation, 1(2), 83–106. https://doi.org/10.1016/j.sheji.2016.01.002

O'Reilly III, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. Academy of management Perspectives, 27(4), 324-338.

Palmer, D., Dick, B., & Freiburger, N. (2009). Rigor and Relevance in Organization Studies. Journal Of Management Inquiry, 18(4), 265-272. doi: 10.1177/1056492609343491

Pelgrim, C. (2019, January 15). Rechtbank: Fietskoeriers van Deliveroo zijn werknemers. NRC Handelsblad. Retrieved March 28, 2019, from https://www.nrc.nl/nieuws/2019/01/15/rechtbank-fietskoeriers-van-deliveroo-zijn-werknemers-a3632896

van der Pijl, P. (2016). 5 STEPS TO DESIGN A VISION BEYOND A VISION STATEMENT [Blog]. Retrieved from https://designabetterbusiness.com/2016/10/03/5-steps-design-vision-beyond-vision-statement/

Poon, J., & Maher, M. L. (1997). Co-evolution and emergence in design. Artificial Intelligence in Engineering, 11(3), 319–327. https://doi.org/10.1016/S0954-1810(96)00047-7

The Power of Purpose: How Patagonia Walks the Talk. (2016). [Blog]. Retrieved from https://corporate-rebels.com/patagonia/

Pullin, J. (1989). Organizational renewal- tearing Down the Functional Silos, 4–14.

Puranam, P. (2017). The Microstructure of Organizations., (July). https://doi.org/10.2139/ssrn.2495909

Rae, J. (2016). The Power & Value of Design Continues to Grow across the S&P 500. DMI, 27(4).

Rhinow, H. (2012). Design Prototypes as Boundary Objects in Innovation Processes Design Prototypes as Boundary Objects in Innovation Processes. Conference on Design Research Society, (July), 1–10.

Riverdale + IDEO. (2011). Design Thinking for Educators. Evolution, 1(April), 94. https://doi.org/10.1007/978-3-642-13757-0

Riemens, T. (2018). Eerst loten, dan kopen: 'Alles om je sneakerverzameling uit te breiden'. NOS. Retrieved from https://nos.nl/artikel/2245599-eerst-loten-dan-kopen-alles-om-je-sneakerverzameling-uit-te-breiden.html

Roozenburg, N. F. M., & Eekels, J. (1995). Product design: fundamentals and methods. Wiley.

Royal College of Nursing. (2016). The Buurtzorg Nederland (home care provider) model [Ebook] (2nd ed.). Retrieved from https://www.rcn.org.uk/about-us/policy-briefings/br-0215

de la Rosa, J., Kohler, K., & Ruecker, S. (2017). Prototyping as a resource to investigate future states of the system, 1–16.

Sabina Aouf, R. (2017). Apple Park employees revolt over having to work in open-plan offices [Blog]. Retrieved from https://www.dezeen.com/2017/08/10/apple-park-campus-employees-rebel-over-open-plan-offices-architecture-news/

Sanders, E., & Stappers, P. (2012). Convivial toolbox. Amsterdam: BIS Publishers.

Schein, E. H. (2004). Organizational Culture and Leadership. Leadership, 7, 437. https://doi.org/10.1080/09595230802089917

Scholten, A., van Roessel, G., Ford, M., & Moini, F. (2015). Implementing Buurtzorg Principles in the NHS. Presentation.

Schön, D. The Reflective Practitioner: How Professionals Think in Action. Basic Books, New York, 1983

Sessa, V., & London, M. (2015). Continuous learning in organizations. New York: Psychology Press.

Shapiro, D., Kirkman, B., & Courtney, H. (2007). Perceived Causes and Solutions of the Translation Problem in Management Research. Academy Of Management Journal, 50(2), 249-266. doi: 10.5465/amj.2007.24634433

Shields, A. (2016). How Mystery Can Engage Your Customer [Blog]. Retrieved from http://cultbranding.com/ceo/how-mystery-can-engage-your-customer/

Simon, H. (1972). Theories of Bounded Rationality. In: C. B. McGuire, & R. Radner (Eds.), Decision and Organization (pp. 161-176). Amsterdam: North-Holland.

Sleeswijk Visser, F. (2014, April). New Circles Keep Popping Up. CRISP, volume 3, pp. 4-5.

Stapel, D. (2019). [In person]. Nieuwerkerk aan den IJssel.

Stappers, P. J. & Flach, J. M. (2014, April). Foreshadowing the Future. CRISP, volume 3, pp. 2-3.

Stappers, P. (2016). (Qualitative) Analysis - What to do with what you got. Lecture.

Stickdorn, M., & Schneider, J. (2010). This is service design thinking. Amsterdam: BIS Publishers.

Stoimenova, N., & De Lille, C. (2018). Building the Foundation for a Design-Led Ambidexterity in a Medium-Sized Tech Company. doi: 10.21606/dma.2017.401

Stomph, S. (2019, March 15). Personal interview. KLM Operations Decision Support.

Ulrich, K. T., & Eppinger, S. D. (2011). Product Design and Development. McGraw-Hill. pp. 259-265.

Valkenburg, R., Sluijs, J., & Kleinsmann, M. (2016). Images of Design Thinking, (October).

Verba, D. (2008). Sketching in Code: the Magic of Prototyping. Alistapart.com. Retrieved 28 November 2017, from https://alistapart.com/article/sketchingincode

Vielmetter, G., & Sell, Y. (2014). Leadership 2030: The Six Megatrends You Need to Understand to Lead Your Company into the Future, 67-87.

Vogelstein, F. (2013, October 6). And Then Steve Said, 'Let There Be an iPhone'. New York Times, p. MM36. Retrieved from http://www.nytimes.com/2013/10/06/magazine/and-then-steve-said-let-there-be-an-iphone.html

Vox. (2017). Open offices are overrated [Video]. Retrieved from https://www.youtube.com/watch?v=-p6WWRarjNs

Wang, C., & Ahmed, P. (2003). Organisational learning: a critical review. The Learning Organization, 10(1), 8-17. doi: 10.1108/09696470310457469

Waring, J. (2019). Business empathy: the missing piece in Design Thinking [Blog]. Retrieved from https://medium.com/@jackwaring/business-empathy-the-missing-piece-in-design-thinking-4efa857e24e0

Waumans, A. (2019, May 7). Personal interview. Rotterdamseweg, Delft.

Weber, E. P., & Khademian, A. M. (2008). Wicked Problems , Knowledge Capacity Builders in Network Challenges , Settings and Collaborative. Public Administration Review, 68(2), 334–349. https://doi.org/10.1111/j.1540-6210.2007.00866.x

Webster, D., Looker, N., Russell, D., Liu, L., & Xu, J. (2008). An Ontology for Evaluation of Network Enabled Capability Architectures. Retrieved from https://pdfs.semanticscholar.org/08e4/8 581247647ee755f1e69c45e109f88fb3553. pdf?_ga=2.253212937.1494320376.1556528131- 2015239170.1556528131

Wegener, F. (2019). [In person]. TU Delft Faculty of Industrial Design Engineering.

What It's Like to Work "The Spotify Way". (2016). [Blog]. Retrieved from https://corporate-rebels.com/spotify-1/

Yang, M. C. (2005). A study of prototypes, design activity, and design outcome. Design Studies, 26(6), 649–669. https://doi.org/10.1016/j.destud.2005.04.005